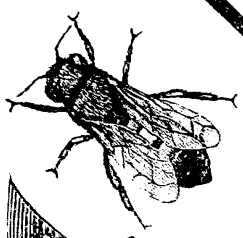


THE AMERICAN BEE JOURNAL

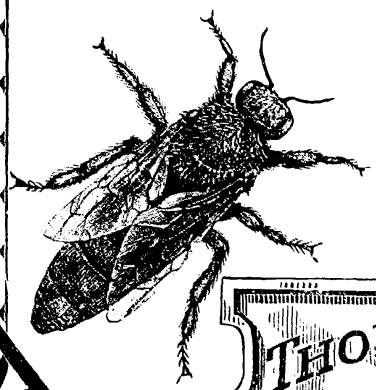
DEVOTED EXCLUSIVELY TO BEE CULTURE

Established in 1861, at Washington, by the late Samuel Wagner.

Thou cheerful Bee! Come, freely come,
And travel round my Floral Bower;
Delight me with thy wand'ring hum,
And rouse me from my musing hour.
Oh! try no more those tedious fields,
My honied treasures all are thine;
Come, taste the sweets my Garden yields,
The bud, the blossom,—all are thine.

—SMYTH.

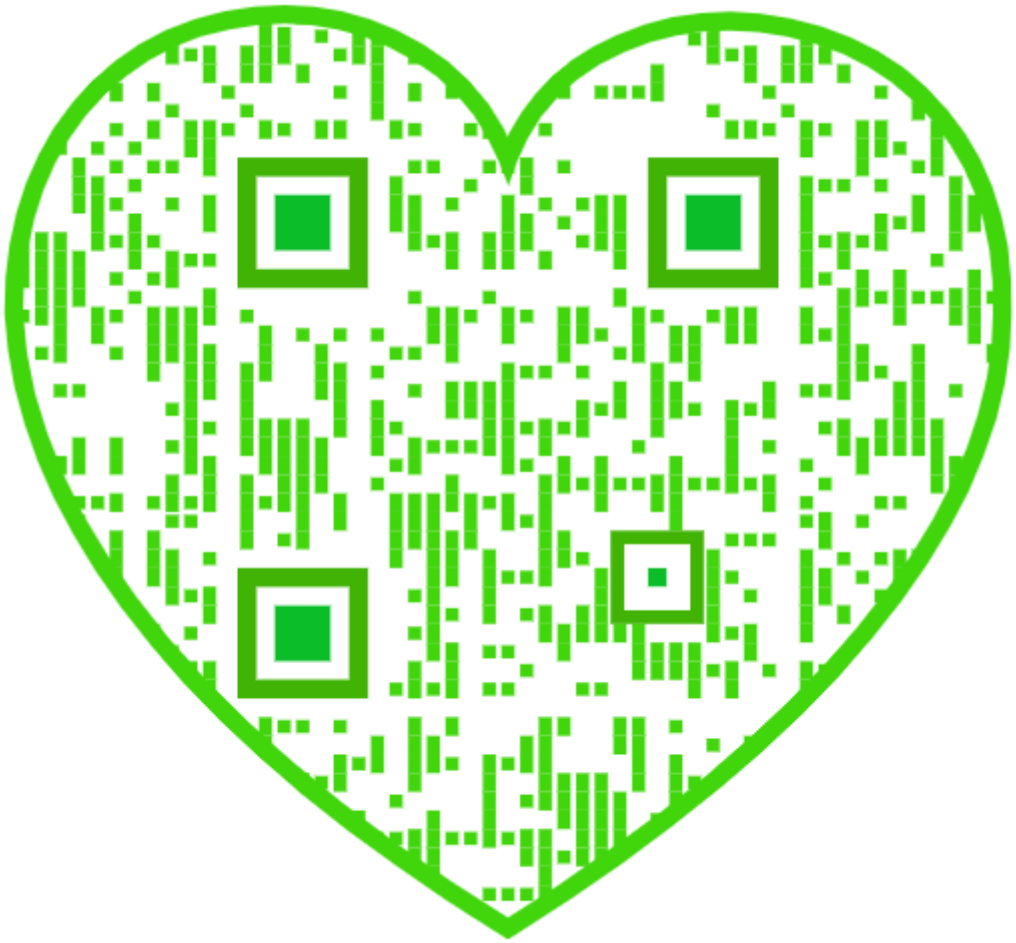
VOLUME XII. --- 1876.



CHICAGO,

ILLINOIS:

THOMAS G. NEWMAN
PUBLISHER.



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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, JANUARY, 1876. No. 1.

Seasonable Hints.

Through the month of January the bees require no care in the cellar or house. They only ask to be in darkness and quiet. If they are on their summer stands, and have quilts or carpets over their frames, they will not suffer; though the entrances are blocked with snow. It is well, however, to see that the entrance, during a thaw, does not become stopped with water and dead bees, which a sudden cold wind may convert into ice. While you have nothing to do for the bees directly in this month, it is the time to plan for another season's work, and prepare your hives and honey-boxes. We hope the experience which some of you have had will not be repeated this winter; *viz.*: your bees die at such a rate that you will need no new hives. If you have been careful, we are sure you will not. There is a feeling of discouragement with regard to the scale of extracted honey which we fear will lead many to re-model their hives, and try next season to secure box honey only. We say "fear," because we are sure that no such change is necessary for those who wish to secure the greatest amount of profit from their bees. We know that the extractor *must* be used by western bee-keepers, in order to keep their colonies strong in numbers from May to November. We have seen, during the past year, many colonies that did well in June, but afterward stored nothing in boxes; and though the hives were full below, they had few bees, and had given their owner no profit. If those colonies had been "robbed" by the extractor of all the honey they could spare early in the season, the queen would have used the empty room; more bees would have been raised, and surplus boxes might have been filled, besides the profit from the extracted honey. The *sale* of extracted honey is another question (we can tell you how to sell it in another article). What we claim is, that it is better to take the honey from the bees, even if it had no cash value.

As to hives—those who do not care to increase their number of colonies, will find it best to have large hives containing from fifteen to twenty frames, side by side. Hives like these, well filled with bees, and with well arranged boxes and frames for honey, will give large amounts of honey in nearly every season. The comb foundations are sure to be a great help, not only in the main hive, but in the surplus boxes. Every bee-keeper can afford to have them in his boxes, and also in his main hives to secure the combs straight, as well as to save the bees time and labor.

We hope the sale of these will be large enough to reduce the price somewhat, but even at the present price, no one not well supplied with empty comb, can afford to do without them. In surplus boxes and frames for securing box-honey, they will insure the combs to be built straight, and give the bees just the inducement to work in them, which is necessary. E. S. T.

☞ All women who keep bees and would like to make contributions of honey, hives, bees, etc., to the display of "Woman's Work" in the ladies' building for exhibition of woman's work especially, at the Centennial Exhibition, are invited to write for particulars to ELLEN S. TUPPER, Des Moines, Iowa.

☞ There may be a few whose term of subscription closed with the year 1875, who do not wish to take the AMERICAN BEE JOURNAL. All such should notify us at once, as we send all Journals till we receive a notice to discontinue them.

PUBLISHER.

OUR NEW YEAR'S PRESENT.—We have now sent out our promised Chromos to all who have sent to this office TWO DOLLARS in advance for THE AMERICAN BEE JOURNAL from January to December, 1876. We did not promise it to any others; a few club subscribers, who had not read our offer carefully, expected it, till we wrote them calling their attention to it again. We must adhere to the *rule*, or some may be dissatisfied.

Now New Years' Day has passed, and the Chromos are all gone. We trust that these beautiful gems may awaken, in hundreds of hearts, "MEMORIES OF CHILDHOOD" that will be abiding and pleasureable; buoying up many sinking spirits to fight anew the battle of life, that at last victory may rest on their brows, as they enter the portals of glory.

To all its readers, THE AMERICAN BEE JOURNAL sends its greeting—wishing them a prosperous and HAPPY NEW YEAR.

☞ We have received many letters of congratulation since our last issue, which, of course, we could neither find time to answer privately nor space to print in THE AMERICAN BEE JOURNAL. Our friends may rest assured that we fully appreciate these words of commendation and encouragement, and shall do all we can to keep the old and reliable AMERICAN BEE JOURNAL up to its present and past standard of excellence and reputation.

☞ In *Gleanings* for December, Novice claims that we should guarantee all our advertisers. It is not only impracticable but impossible for us to know enough concerning the business capacity and integrity of our many advertisers to make such guarantee. We suppose bee-keepers have at least as much sagacity and intelligence as any other class, and would not thank us for interfering in such matters. We do not aspire to be a censor of the Press—nor a dictator to men of intelligence. *Caveat emptor.*

☞ Particular attention is directed to the new advertisement of Dr. J. P. H. Brown, of Augusta, Ga., importer of Italian Queens, which may be found on another page.

☞ During the coming year we hope to make THE AMERICAN BEE JOURNAL more varied and interesting than ever. We expect to add some new features in the course of a few months, that now are but partly developed. We trust that all interested in the welfare of THE JOURNAL will write fresh from their own experience and observation. The prospects of THE JOURNAL for 1876 are very encouraging, and we trust our friends will not forget their kind offices at this period of the year, among them that of renewing their subscriptions promptly, as well as getting all the new subscribers they can for the "old and reliable AMERICAN BEE JOURNAL." We shall neglect nothing to merit the approval of all our readers.

☞ The first installment of the report of the Michigan Bee-Keepers' Association appears in this issue. The Secretary furnished only a portion of it to the *Bee-Keepers' Magazine*, and our friends, King & Slocum, the publishers, favored us with advance sheets. As this number was then almost all in type, we had to omit some other matter in order to admit this into the present number. We regret that the Convention allowed itself to be drawn into a disagreeable position in reference to the Heddon and Novice matter. The former appears to be in a disagreeable mood, and sees nothing right or good outside of himself. At least, the Secretary should not have burdened the report with these matters. We shall defer further remarks till we have the copy of the entire report.

☞ The date after your name on the wrapper of every paper, is the date from which a new subscription starts, *after* the expiration of the time paid for. Thus, "Jan. 76" means that you have paid only to the end of the year 1875—and the new subscription commences with this number—January, 1876. Some do not seem to comprehend—hence this allusion.

The *Herald and Mail*, of Columbus Tenn., says that Mr. David Staples has the management of 250 colonies for R. G. Harris, 80 for C. C. Vaughn, 40 for W. J. Andrews, 100 for L. R. Cullen—making 470 altogether.

Voices from among the Hives.

WATSEKA, ILL.—Dec. 9, 1875.—"My bees went into winter quarters in good condition. They gave me 35 to 40 per cent. profit this year. That is better than yearling steers have done for me the past year."
T. N. MARQUIS.

WAVELAND, IND.—Dec. 20, 1875.—"I have about 30 hives in good condition in the cellar. They are Italians and hybrids, and I am patiently waiting, in good spirits till spring, and hope for a good season." ISAAC SHARP.

ROSEVILLE, ILL.—Dec. 17, 1875.—"We had 48 colonies which we fed from apple blossom time till the first of August, increased to 63, making only 15 swarms from 48. They gathered quite well from buckwheat for a few days, and then wet, cold weather set in, and we got scarcely nothing from any other source. We took nearly all the honey from the bees and fed them sugar syrup for their winter supplies. In all we got about 1,500 pounds of honey, and fed during the summer and fall about 220 or 225 dollars' worth of sugar, but our bees go into winter quarters in splendid condition, never better. We had about 9 acres of buckwheat which we cut with a reaper and thrashed with a thrashing machine, which gave us 137 bushels of grain. We realized from the flour about $1.00 per bushel, which paid me this year better than other grain."
L. C. AXTELL.

BUFFALO, N. Y.—Dec. 20, 1875.—"I commenced last spring with 10 colonies, one queenless, and they have given me 21 new colonies, and 105 six-pound boxes of honey, and 120 nearly full. Some were full but not capped over, and others had two cards full, and I could have got much more honey if I had been able to use the Extractor or have taken care of them. My health has been so poor the past few years that I could not see to them, but I am satisfied with what they have done, and while I have strength to walk to my apiary, and am able to read, I must have my bees and BEE JOURNAL."
MRS. WILLIAM HARRIS.

LAFAYETTE CO., MO.—Dec. 14, 1875.—"I have about 100 stocks (made up of Italian, hybrids, and blacks). The latter have acquitted themselves equally as well, or better than the yellow and mixed bees this season. Have taken from 80 strong stocks, mostly in small glass boxes, something over 5,300 pounds comb honey, or about 67 pounds to the hive—balance of the hives average considerably less—don't bother with strained or extracted honey.

"June swarming not equal to last season; smart-weed and other plants very rich in August—swarming then nearly equal to June—use chiefly the American hive. Practice mostly natural swarming; hive the swarm in common box; place same by the side of the original hive, and inside of four days cut out queen cells and return the swarm.

"This method has its objections and difficulties, which every practiced bee-manager knows, but having orchards, farm, etc., on hand, such suits me best.

"Pack and ship in November, and sell at current rates—the price ranging from 20 to 30 cents, according to grade and season.

"This is not considered a *fine* honey producing section. The general average not being up to the present season."
ALSIKE.

COLUMBIANA CO., O.—Dec. 12, 1875.—"I have been keeping bees for over twenty years with moderate success, the principal inducement is to supply our own table with honey; hence, I have become a regular reader of THE AMERICAN BEE JOURNAL, and got Italian bees and improved hives. My bees generally do a little more than supply our table, but this season was so wet—the rain seemingly washed all the sweet out of the flowers before the bees could collect it, and the freezing weather killing the fruit bloom—that the fore part of the season was very unproductive.

"The principal sources of honey here are linn and white clover; the soil has been cultivated so long, and sheep raising is so common, that wild flowers amount to but little, except smart-weed is generally plentiful in the fall, and is much visited by the bees. Spanish-needle is plentiful but scarcely visited by bees."
JOB HUESTIS.

BENTON CO., MO.—Dec. 11, 1875.—"MR. NEWMAN: I did not tell you all of the good part, in my late report. I forgot to say that, in addition to 473½ gallons of extracted honey, we got 600 pounds of box honey." J. W. DICK.

CASS CO., MO.—Dec. 14, 1875.—"There are no Italian bees in this neighborhood but mine. I have 74 stands in good condition. They stored 3000 lbs. in comb and extracted honey from August 10 till frost." PAUL DUNKEN.

ONONDAGA CO., N. Y.—Dec. 16, 1875.—"There is no monthly visitor more welcome at my house than the AMERICAN BEE JOURNAL. As long as I am in the apiarian business it shall have my warm support." H. ROOT.

WILLIAMSON CO., TENN.—Dec. 4, 1875.—"I made no honey this season until about 3 weeks ago. I extracted some to give the queens more room. There has been no brood for several weeks and the brood chamber is filled with honey.

"The principal honey plants here are white clover, linn, and poplar for spring,

and aster, smart-weed and golden-rod for fall.

"The AMERICAN BEE JOURNAL is my regular text book. I should be lost without it." MRS. N. G. MORRISS.

GRIDER, KY.—Nov. 26, 1875.—"The AMERICAN BEE JOURNAL has been of great help to me during the last year in giving information on bee culture, and I am much pleased with it.

"I commenced this spring with 18 Langstroth hives, and increased to 40; Italianizing only a part, and taking no honey, I could have increased to 60 colonies.

"Besides these at home, about 8 miles from here, I bought 3 old hives which I increased to 10 during the season.

"I made a hive four feet long, something like a New-Idea Hive, with 6 apartments. In each division I put a piece of comb, which I had taken from the old colonies. These were full of brood and had a few workers clinging on. I also placed another piece of surplus comb in each apartment. I put in a queen which I had taken from the stands at home, before I introduced the Italian queens in each division. The great increase astonished me, and the top of the hive having warped, there was communication with all the divisions, and I soon discovered they were killing the queens in the centre, and now there are only remaining two queens, one at each end, with a great quantity of bees in the hive."

J. G. ALLEN.

DODGE CO., WIS.—Nov. 20, 1875.—"Season wet and cold; I commenced with 11 stocks; sold 6 in May, leaving 5 good and 2 rather weak stocks, in eight-framed Langstroth hives. Increased to 24. Honey season commenced in July. I got 85 lbs from each stock. Sold all at 20@25 cents. A frost came in August, and I had to feed sugar syrup to many of the latest swarms to get them to cap the honey over. I now have 29 stocks in a cave, nearly like the one used last winter —3½ feet in the ground and 3½ above, covered with earth and straw 3 feet thick; it is 14x16 inside. Our main plants are white clover, basswood and golden rod." JOHN H. GUENTHER.

PORTLAND, OREGON.—Nov. 18, 1875.—"April 1, I had 26 swarms, 4 in movable frame hives, and the rest in common ones, some rather dilapidated. Our rainy season lasted six weeks, and then it came off very hot and dry. In a month the white clover was done for, and other pasture was scarce. The 4 swarms in frame hives increased to 7; 6 of them making 40 lbs box honey each. I transferred the others, and that put them back. They increased to 35, but no surplus. I now have 32 hives all in good condition."

D. D. BRIGGS.

RED OAK, IOWA.—Nov. 23, 1875.—"My report for 1875 is as follows: After spring sales I had on hand 33 stocks; I took 20 of them three miles from home; went to them once every 10 days and cut out the queen cells to keep them from swarming; they gave me 800 lbs. box honey and I increased them to 46; the 13 I kept at home I increased to 66, but in preparing them for winter I found some of them deficient in honey, so I broke up and united 19, which left me 47 in my home apiary.

"I now have 93 stocks in splendid condition for winter, put them into my cellar Nov. 20; the 18th was very warm for the season, they had a good fly.

"Linn blossoms produced no honey this year. My bees gathered only enough to supply their brood until after Aug. 10. Our only honey source here is from fall flowers, principally golden-rod and heart's-ease. We have had but few fruit blossoms or white clover. I would like very much to have G. M. Doolittle, Capt. Heathering, R. M. Roop and others who got from 1,000 to 5,000 lbs. box honey this year, to give in the JOURNAL their plan of getting the bees from the boxes filled with honey. I would about as soon extract 1,000 lbs. as to get the bees from the 1,000 lbs. of box honey. My experience is that fully one-twelfth of the bees in boxes of honey that is capped and ready to come off, are young bees that have never left the hive. It is a job to get them out; they will not leave the boxes, but where a lot of boxes are piled together, fully one-third of the bees will cluster together and stay there." E. D. GODFREY.

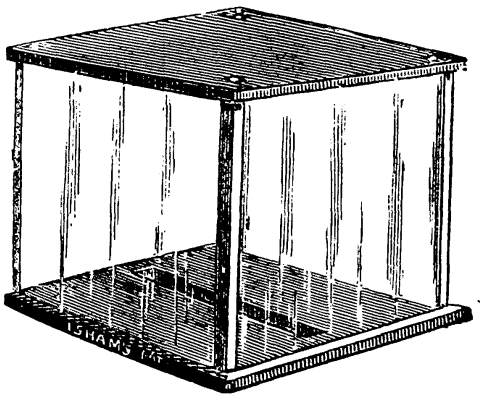
VIRDEN, ILL.—Sept. 8, 1875.—"In the September number Mr. I. Applewaite speaks of a plan of hiving bees that I have practiced more extensively this summer than he seems to have done; inasmuch as I have frequently hived them in the same manner without the queen. For instance, it is no uncommon occurrence for a swarm to issue and return without alighting, thus causing considerable trouble, especially if you chance to be in the field, half a mile from the house. Now, in order to be sure of a swarm when they come out, I have my hive all ready, and if I find they are coming back, I move the old hive and substitute the new one, then give them a frame of comb from the old hive with a queen cell on it, meantime if you find the old queen on the grass, you can give her to either hive you choose. I find that my bees will store honey much faster in small frames, placed directly over the lower frames with nothing between them, or if in boxes, those that have slat bottoms instead of augur holes. I find it very convenient to keep a piece of carpet under the honey board, as I can examine a hive without a chisel to pry off honey board, and irritatingthe bees." S. W. LOUD.

Correspondence.

For the American Bee Journal.

Glass Honey-Boxes.

As the glass honey-boxes which I have been using in my apiary for the past few seasons have given very satisfactory results in obtaining and marketing surplus honey, I have confidence to comply with your request "To give a description of them in the AMERICAN BEE JOURNAL," trusting that if it be in no other way of any benefit, it may open the field for discussing the merits of the various styles of receptacles used by successful producers in different parts of the country.



ISHAM'S HONEY-BOX.

The tops and bottoms are of any kind of wood desired, soft being generally preferred, as it is easier worked, but hard woods admit of polishing and making as ornamental as may be wished, especially when a variety is wanted for exhibition.

Dress to proper thickness, say three-sixteenths of an inch, varying with size of box required, and cut entrance slots in bottom piece.

The metal corner is a seven-sixteenths of an inch strip of tin, bent angular and pronged at each end, by cutting away one side, making length from shoulder to shoulder the same as length of glass for height of box with prong long enough to point—pass through woods—bend over and make a square clinch, as shown on top of box in cut.

In each corner of wood, at proper distance from edge, make a narrow mortice for prong of tin corner to pass through, and inside from mortice, average thickness of glass distance, make an awl-hole, in which to drive a three-eighths of an inch zinc shoe nail, to hold the glass from falling inwards.

Having cut the glass to proper size, the box is now ready for putting together.

Through each mortice in the bottom wood pass the prong of tin corner, bending projection down flat on the outside surface; then lay on a bench or table, with sides fronting you, and it is in position for receiving the glass.

First, put in the sides, resting them in respective corners of tins which stand flaring; then with right hand put left end glass in place, clasping with thumb and finger of left hand, outside each corner drawing sides to proper position and holding end glass to place; now slip in other end glass, for the present not giving it much atttention. You are now ready for putting on top piece, (to which has been fastened starting comb); by taking it in your right hand and slipping one end on prongs just far enough to hold them together, then reversing position of hands change operations to the other end of box, drawing the corners to place, inserting prongs in mortice the same as at the other end of box, and press top squarely down till the ends of nails are even with tops of glass; then take the box in hand and with narrow stick or old flat file inserted in slot, crowd out end glass flush to place, then lay the box on bench, press on light, hammer top down tight to glass, when you have but to clinch or bend down the ends of tins, and the box is completed.

At first trial it may go awkward, and some difficulty be experienced in getting them together, but with practice making honey-boxes will become pleasant pastime for long winter evenings, and you will have boxes ready for use when wanted, however hurrying may be the season or suddenly come the demand.

It is not necessary to have the glass very tight, for when the bees seal the cracks it makes them firm and solid.

For my own use I principally make three sizes, as follows:

For narrow single comb box woods, 6⅜x2½,
Glass, 5x6, 5x2.
" two " " " 6⅜x4½,
Glass, 5x6, 5x4.
" Three " " " 6x6,
Glass, 5x5 7-12, 5x5½.

At present I am using mostly of the small size, as they sell best in the New York market, also in the cities of Rochester and Buffalo; and I am satisfied I can get as much honey in them as in boxes of larger capacity.

The two-comb ones are also a very desirable and salable size, when filled averaging about 5 lb weight. The 6x6 are the regular Langstroth sized box, holding between 5 and 6 lbs when well filled. By using 5x6 glass on the four sides you have a box 6½x6½, holding about 7½ lbs gross, which size some may prefer, but with us is too large to meet with ready sale in our markets.

In the bottom of the small box, cut lengthwise two narrow slots, the outsides of which come close to the inside edges of glass, giving the bees a chance to build comb close to the bottom, which is very desirable, as they can be handled and shipped right side up, with less than ordinary liability to breakage.

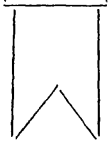
The side glass also through this slot can

be cleaned on inside, which is quite an advantage, especially when wanted for exhibiting nice honey. For two-comb boxes I use three narrow slots for entrances.

These boxes can be used on most any size of movable-comb hive, by removing honey board and laying strips ¼ inch thick across the frames, for the boxes to rest on, or upon common box hives, by boring a number of holes through the top and laying strips around outside edge of space, for what boxes it will hold—dividing at proper distance with a cross strip—put on all the boxes it will hold, covering with a tight outsipe cap, and you can get them just as nicely filled as though they were on hives of more pretentious style.

A standard Langstroth hive holds, by laying two strips across the frames, 18 of these small boxes, which filled weigh 40 gross per story, and you have 36 boxes weighing 80, and so on through the honey season, accommodating the bees with plenty of box-room, no matter how great may be the rush of honey, provided you always have plenty of empty boxes on hand; this is really one of the secrets in obtaining large yields of box honey.

Now to make steel for cutting mortices: Have your blacksmith hammer from an old file a piece as near to proper shape as possible, the chisel part being about an inch long from shank, and full size of mortice; file square and true, and with a three-cornered file cut a notch in bottom broadside with steel, which makes each narrow edge chisel pointed; being careful to have cutting points flush in width and breadth, so as not to split wood when the chisel is pushed through to clean out the mortice.



Have a thin board pattern, with mortices and nail holes in proper place, so fastened as to admit of slipping under it box-wood to be fitted, which rests upon a hard wood bottom, in which are slots to correspond with those in upper piece. By driving your chisel through the wood from slots in pattern, and piercing with a brad-awl holes for nails, you have the wood ready for using. Get your pattern right and all your wood will be prepared alike, and there will not be any difficulty in putting up boxes provided your glasses are cut to mark, which can be easily done by laying them in a box for that purpose.

There are some other details which I probably had better not occupy space in describing here, as it is somewhat difficult to give a plain description without cuts.

If any of your readers would like to see a box, I will forward them by mail a set of woods and tins for amount to cover postage and pay for packing.

These boxes are covered by letters patent, dated Jan. 30, 1872, but I intend to be liberal in disposing of rights and territory, making it more of an inducement for parties wishing to engage in their manufacture at a small outlay, to secure themselves from cheap, ruinous competition.

A sample box and instructions pertaining to their manufacture are worth more to any one wishing to make and use them, than the small amount I charge for the privilege of so doing. C. R. ISHAM.

Peoria, Wyoming Co., N. Y.

For the American Bee Journal.

McFatridge's Apiary.

While stopping with Mr. P. W. McFatridge, near Carthage, Rush co., Ind., I became very much interested in his improved method of taking care of bees. His care of bees, the construction of his new bee house, his improved Langstroth hives; and, in fact, everything connected with his apiary is so simple and so conveniently arranged that I thought a few lines might be written for the improvement of others who are less experienced. First, then, preparing his bees for winter, —Five portable platform cars are loaded with bees—20 hives on each—in the commencement of cold nights, and are run into the house or out again in ten minutes, thus giving the bees the advantage of a few hours of warm sun even in the winter season. For description of bee house, cars, &c., see No. 5, Vol. 11, page 111 of this journal. I have examined many hives, but I believe the Langstroth hive, with Mr. McF.'s improvements on it, is far superior to all others in use. In fact everything connected with his management of bees is reduced to a perfect system. In Sept., 1873, Mr. McFatridge purchased of the Rev. L. L. Langstroth his entire apiary, consisting of 54 colonies, all Italian bees. Adding these to his own, consisting of 68 colonies, gave him one of the finest apiaries in the State. Mr. McFatridge has been more or less engaged in keeping bees for forty years, but not until 1867 did he make it his exclusive business. Like all other apiarists, his success has been varied as the following will show:

In 1867 he had 22 colonies, 600 lbs. honey, av. 27.

In 1868,	28 colonies,	1,827 lbs.,	av.	65 lbs.
" 1869,	30 "	2,100 "	"	70 "
" 1870,	80 "	3,600 "	"	45 "
" 1871,	80 "	4,744 "	"	59 "
" 1872,	14 "	Failure.		
" 1873,	44 "	4,183 "	"	95 "
" 1874,	60 "	8,629 "	"	143 "
" 1875,	80 "	2,400 "	"	30 "

Average for eight years, 66 1-8 lbs.

Total loss of colonies for same time, 310.

Purchased in same time 104 colonies at a cost of $584.00.

Total surplus honey in same time, 29,763 lbs., sold at $5,907.00.

From the above it will be seen that the keeping of bees under favorable circumstances can be made a success, while on the other hand it may be attended with great loss. The question then to be solved is: can it be made a success? I answer, that while a warm, dry season is indispensible for increasing bees and making honey, yet the great problem to be solved is: how shall we keep our bees through the winter? When Mr. McFatridge gets the ventilation and artificial heat to suit him, with his new process, I think his success in wintering bees will be assured. A visit to his apiary will repay any one who desires to get some new ideas in the management of bees.

A. H. PROCTOR.

Rushville, Ind., Nov. 2d, 1875.

For the American Bee Journal.

Milk Weed as a Honey Plant.

Considerable has been written in reference to the destruction of bees, by the plant called milk weed, and some aver that it destroys every bee that works upon it; this is contrary to my observation. When this plant is in blossom, I have noticed bees gathering honey from it in considerable quantities. Although some bees are caught while at work upon the blossoms, and a goodly number get their feet clogged with the oblong particles, interfering with their locomotion in a wonderful degree. I have seen on the bottom boards of hives, a teaspoonful of those particles, that adhere to their feet, which undoubtedly were removed by the bees after returning home in the condition mentioned above. That bees are destroyed by this plant, is a matter beyond dispute, but the honey they gather from it will more than balance the loss of a few bees. In my estimation it is merely a drop in the bucket, when we bring the moth or foul brood into consideration.

Ono, Wis. M. S. SNOW.

For the American Bee Journal.

Give us the Points.

MR. NEWMAN: Your questions to bee-keepers have elicited some reports of wonderful success, and some reports not so wonderful. It reminds me of our California luck in raising corn a few years ago here, where we never look for a drop of rain after planting. Sometimes it would come corn, sometimes stalks, and sometimes we would get neither. Sometimes our potatoes would yield tubers, and sometimes nothing but tops. We were lucky or unlucky, and that was all we knew about it. The problem had to be solved, and many cornfields were visited, and the peculiar points of cultivation in all grades of success were carefully noted and comparisons made. The secret was solved, and now corn and potatoes are as successfully produced here as in Iowa.

In the bee business the reports indicate that in many cases it is almost as much a matter of luck as a matter of skill, even with those who have had the most experience in the management of the apiary.

By publishing carefully prepared reports from a hundred successful persons, and the points to which they attribute their success, great progress may be made each year, and the points essential to success, as shown by the reports, can be followed by those who are less successful.

I have carefully calculated the per cent. gained on the amount invested by a number of your correspondents in the following manner: To have the estimate on a uniform basis I count the empty hives as worth a dollar, colonies worth $10, and honey 20 cents per pound. To the value of the original stock I add the cost of the hives used for the new colonies, and also the value of the honey, if any, fed to the bees in the spring. Then I credit the account with the value of the swarms on hand in the fall, and the honey produced, thus:

N. CAMERON'S Apiary.	DR.	CR.
To 13 swarms, $10 each....	$130	
" " " feed, $1 each,	13	
" 47 new hives, $1 each...	47	
Total debit.....	$190	
By 60 swarms		$ 600
" 2,000 lbs honey, 20 cts..		400
Total...		$1,000
Net gain		810
Per cent. gained on capital		426

Mr. Cameron had $190 invested and cleared $810; amounting to a net gain of 426 per cent. on the entire capital invested.

The following list shows the per cent. gained by others:

	Per cent.
C. C. Crawford, Kane Co., Ill.....	596.
H. Nesbit, Harrison " Ky., ...	559.
Mrs. M. A. Bills, Hillsdale Co., Mich.	581.
W. Arms, M. D., Perry Co., Ill.....	415.
J. S. Bryant, Harrison " Mo....	339.
Nrs. Hattie Smith, Bureau " Ill.....	337.5
Mrs. Mary Stibbs, Wayne " Ohio ..	329.
J. Ingmundson, Mower " Minn. .	310.
J. C. Armstrong, Marshall " Iowa ..	300.
John Cardinal, Brown " Wis. ..	295.
H. F. Walton, Grant " Wis. ..	292.
E. H. Rogers, Dodge " Neb...	291.
J. F. Montgomery, Lincoln Co., Tenn.	285.
P. H. Bohart, Platt Co., Mo.....	281.
C. B. Billinghurst, Dodge Co., Wis..	261.
A. H. Hart, Outagamie " Wis..	241.
J. I. Parent, Saratoga " N. Y.	238.
E. C. L. Larch, M. D., Boone Co., Mo.	205.
Barnum & Peyton, Davidson " Tenn.	152.
G. H. Sprague, Steuben Co., N. Y....	134.
E. Brown, Norfolk Co., Ont.....	130.
J. E. Love, Marshall " Tenn.....	126.

Here are the names of 23 bee-keepers who have been remarkably successful. They may be called lucky by some, but few will doubt that they exercised great skill in the management of their business. Now, if each one of these would write a careful account of the *points* tried so successfully, which enabled them to accomplish so handsome a result, I have no doubt their statements would be studied with greater care for some time to come than any other writings on the subject of bee culture. O. L. ABBOTT.

Santa Barbara, Cal., Nov. 8, 1875.

For the American Bee Journal.

Amateur.

There is a question in the August number of the Journal, asked by Mr. Rasmussen of this county which I think was answered incorrectly. The question was as to the cause of brood with blue eyes, fully grown but left uncapped. My opinion is, such brood is left uncapped on account of a small moth worm, which is near the bottom of the cells and where the bees cannot reach them. The cells are left open hoping that the worm may come out.

If any one will take a sheet of comb thus affected, and rap on the cells, or in some way so disturb it as to frighten the worms, you will see them crawl out of the cells, or from one cell to another. The cells which are lengthened out and capped only are not drones, but the brood which has been troubled as above described and the worms removed, the brood being older, is not capped in the same way as young larvæ.

The larva or crysalis, described with blue eyes, is *not* dead, but it is frequently the case that the worm has tied it in the cell so tight that it cannot extricate itself but has to be cut out by the bees.

I have received many letters asking additional questions about this locality for bees, and will answer a few of them through the columns of the JOURNAL.

Our mountain bee-ranches are the very best localities for health. We are generally at an altitude of about 1500 ft.—above the dampness of the sea coast, and almost entirely free from frost. Most of the ranches are from 12 to 25 miles from R. R. or market of any kind. We generally sell our honey to eastern dealers. Either direct or to city men who sell to eastern dealers. The home market is very small, compared to the amount of honey produced. The average net price for extracted or strained honey is about 8 cents per lb., and for comb about 14 cents. A large majority of the honey is strained or extracted. There are not many bees for sale in Los Angeles Co. The average price per hive, in box hives, is $4.00, and in movable comb hives about $8.00. I don't think it would pay any man to bring bees out here with him from the east, as the cost in shipping would be too great. It will not be more than two years until this country will have all the bees that it needs. There are some good localities not yet taken up, but they are more inconvenient to market, say 25 miles away and a pretty rough road. There are not many localities in this county that are suitable for bees, that are more than a mile or two away from neighbors, and generally there are several within three miles, some stock ranches and others bees. There are no poisonous reptiles here except the rattlesnake, and but *very few* of them. Some Tarantulas, Centipedes and Scorpions, but they are not to be dreaded, as they are nocturnal in their habits and their bite is not fatal. Just such clothing as would be considered "spring clothing" in the East, is needed the year round here. The best bed is a woolen mattress, with feather pillows, and a pair of *good* blankets, and one quilt. The route is to San Francisco, thence by steamer to San Pedro, thence by rail to Los Angeles. The water here in the mountains is very good. As to the probability of overstocking the market with honey from California, the idea is preposterous. The honey district is a very small one comparatively speaking, and will never injure the market.

Orange, Cal. AMATEUR.

For the American Bee Journal.

The Apiary House Question.

I notice in November number of the BEE JOURNAL an article headed "House Apiary," bearing the signature of M. J. Stibbs, noticing a house apiary built by A. I. Root, of Medina County, who is also editor of "Gleanings," etc. The article states "that although he has not yet given the circumstances that led him to build it, I am quite sure he intends to do so, in justice to Mr. Coe, from whom he procured all the necessary instruction for building it." It is true that Mr. Root visited the house apiary of Mr. Coe, and became familiar with the plans upon which Mr. Coe constructed it, yet Mr. Root's house apiary is by no means fashioned upon the precise plan of Mr. Coe's. They are, in fact, quite different. I have personally inspected both of the houses, and find them to be constructed upon quite different plans. While that of Mr. Coe's is a square building, Mr. Root's is an octagon. Other differences might be mentioned, did time and space permit, but enough has been said to show that Mr. Root has not fashioned his house after the model of Mr. Coe. Mr. Root will, no doubt, in time, give a correct description of his house apiary.

G. W. DEAN.

River Styx, O., Nov. 9, 1875.

For the American Bee Journal.

Improvements.

FRAMES.—Much has been said about frames; they should be made of ⅞ lumber, top and end bars about ½ an inch thick, bottom ¼ thick.

GUIDES.—Beeswax guides properly put on are the best, (except comb guides.) "Novice" will say, don't use such clumsy things; but the fact is the "metal corners" are nice, but in practice they are not so nice. "Novice" harps much about killing bees, and cutting them in two, with common frames, and frames sinking into our metal support. I would say to the inexperienced that there is but little danger of cutting bees in two. Of course an occasional bee will be killed, but you kill more bees at the end of your frames, in the hive. I use a strip of tin 1¼ inches wides, with one edge folded over to present a straight, smooth edge, so that the frames are as easily handled as those with "metal corners," besides the advantage that we can shake the bees off with some degree of satisfaction; while with the "corners" you must brush off, perhaps one-fourth of the bees. If "Novice" can shake off very nearly all the bees from his combs, "just as easy as can be" ("*Gleanings*," page 142), then his bees are different from mine.

QUILTS.—Some use quilts; others think they are too bothersome and expensive. I find that it don't pay to use either, alone. I have used a quilt with a board on it, the past season, and like it a great deal better than either, alone. So you see my quilts are easily *made* to fit. My bees do not build an inch of comb under the quilt as they used to do. In October I took off the boards, opened the hives, took out all unsealed stores and cut winter passages through all the combs, took out two combs, leaving eight spread with about 25 lbs of honey.

I think quite favorably of the house apiary, but you don't find me making any more complicated fixtures, such as division boards between hives, room for one or two hundred pounds comb-honey, etc. I think our hives should be made especially adapted to the use of the extractor, and then if I can engage comb-honey at 25 cents gross, I may run a part of my force to comb-honey. All the experience I have had with the apiary house, was in carrying my bees into my bee-house, this fall, to take out the unsealed honey, and see that they had not less than 20, nor more than 30 lbs of sealed stores. Sometimes I find that they are rather bothersome, crawling over the edge of the hive. To obviate that trouble I shall make my in-door hives with rabbets three inches deep. I shall use 20 combs 13⅞x11 inches.

I find there is but little danger of stinging in the house. I was stung but twice in handling 70 stocks, and then they flew into my face when I raised the quilt before they knew they were in prison. The house must be kept light or there is danger. I never found it necessary to extract after night. I thought I would try it, but soon got enough of it. There are a great many drones in most of my hives now, but they will soon be nearly all killed.

On page 140 of *Gleanings*, "Novice" says there are about 10 sheets of comb foundations 6x16, in a pound. I bought one pound, 8 sheets 6x13. I think they are just what we want, provided they are not too costly. If Mr. Long could make the foundations 10 inches wide and sell them for 75 cents, or less, by taking say $50 worth or more, it would be a good investment.

I had 50 stocks one year ago in rather poor shape, as many of them had more or less unsealed stores. I lost in March and April, 25, so I had but 25 weak stocks left. I increased to 70—50 good stocks and 20 rather weak. The weather was so very unfavorable in September that I could not build them up as strong as I expected to. I did not extract any till July 25, and since that I did not get a very good yield of honey, yet I averaged 150 lbs extracted honey, and have 300 extra combs built. If I should have 50 strong stocks next April and a little better season, I think I could average 300 lbs.

"Novice" does not tell us why honey flies over the top of the can. In revolving the comb frame the air flies upward in a circle, and if the honey is thick, as it should be, at a temperature of 75 or 80°, the honey will be thrown upward in fine particles, or threads, by the rising current of air.

R. S. BECKTELL.

New Buffalo, Mich., Nov. 8, 1875.

For the American Bee Journal.

Housing Bees.

In our northern climate, the protection of bees, through the winter, by some means or other, is a matter of the greatest importanee. Bees, like any other stock, if well wintered, are ready in spring for a good summer's labor, and if poorly wintered will take the best part of the season to gain sufficient strength to even sustain themselves. The United States comprise such a variety of climates, that the same means would not answer in all sections. Having wintered my bees, the last two winters, in what Mr. Langstroth terms a clamp, I feel confident that it is the safest and best plan to winter them here in the far north, at least, where the soil remains frozen from November until April. I placed 40 stocks in a clamp the last winter, (which was a severe one for bees) and they remained in

it five months, and all came out in good condition. The one I constructed was modified somewhat from the one Mr. Langstroth described in his work, merely for convenience. Having selected the highest ground, near the bee yard, for the clamp, I measured off 16x16 feet, dug out the soil one foot deep, throwing it out at each side for covering; I then set four posts in the center on a square of 8 feet and 6 feet high, pining pieces on top of the posts to sustain the inward pressure, after being covered. I covered the top with strong poles, placing them 8 or 10 inches apart, and treating the sides the same, placing the bottom of the side poles on the top of the ground, which would give them an inclination of about 45 degrees. On one side put a door, the jamb being a foot wide, and the same position, or slant, as the sides. It is then ready to cover with straw (hay is better), cover all with earth 1 foot thick, and you have it ready for the bees. Make a cover for the door and place it on the jamb on the outside. Cut a hole in one corner of the door 3x3 inches for ventilation; or ventilating tubes would be better. It is well to let it remain a few days, with the cover off, to dry out before putting in the bees. When they are put in have the hives as dry as possible; give them upward ventilation, and disturb them afterwards as little as possible.

M. S. SNOW.

Ono, Wis., Dec. 1, 1875.

For the American Bee Journal.

Effects of the Extractor on Brood.

The question of J. W. Dunn, page 267, December number of the JOURNAL, is often asked, and is a very important one. The various opinions on the subject seem to show a lack of careful investigation. This is not as it should be; and the question ought to be settled beyond all peradventure before the next season for extracting has passed.

The results of my careful attention to this subject has taught me:

1st. Eggs can not be thrown out by the use of the extractor.

2nd. Young larvæ are not injured by the extractor unless thrown out.

3rd. Ninety per cent. of the larvæ that are thrown out by my extractor are drone larvæ.

The drone larvæ owing to the larger size of the cells, and their greater weight when several days old, are more easily displaced than worker larvæ.

As very young larvæ and eggs are often removed from the cells, when put into a strange colony, it is necessary to notice whether combs are put into their proper hive or not. I think this the likelist source of error in determining this question.

A daily examination of the combs of queenless colonies that had been extracted failed to discover, in several instances, any other change in the contained brood and eggs, than was due to growth and development.

Some apiarists say: always run the bottom of comb forward in the extractor, to make the honey come out easier. Now I can see no difference in this respect; and theoretically there is none, for the centrifugal force acts in a *straight line*, outward from the center.

A careless hand will sometimes break combs by starting or stopping too suddenly, especially if the gearing is such as to require a rapid motion of the hand, thus giving more power over the revolving frames.

The most common objection that I have observed to the extractors offered for sale is that the combs are too near the center of the machine. Some that are on the market have the comb-racks so close to the center, that the tendency is to split the combs down the middle when in rapid motion.

W. C. P.

Maysville, Ky.

For the American Bee Journal.

Chips from Sweet Home.

SEPT. 14. — Our apiary numbers 108 hives, of which 50 are storing in boxes, slinging from 15, 41 comb-building, and two have queens not laying.

Since we have Italianized our apiary we are troubled but little by the moth; ants and spiders are worse this year.

Some time since some writer said that the Italians built larger cells than the black bees. A few days since we got a swarm of black bees, and had an opportunity to verify it; their worker comb measured 100 cells in two inches square (or four square inches), and the Italians only 82 in two inches square. Is this difference in size an improvement or not? Are Italians smaller by being raised in cells by black bees?

We use all good drone comb for guides in surplus boxes. To secure this we are cutting out drone comb, and have our comb-builders fill in with worker comb; for this purpose we employ nuclei and weak swarms, giving them from 2 to 3 full combs of brood and one or two empty frames or combs, from which we have cut drone comb; these we keep *strong* by crowding with a division-board, and examine once every two or three days, according to the tendency to build drone comb, which is regulated by the amount of honey being gathered, building worker if scarce, and *vice versa*.

How would I secure the greatest amount of box honey? I would have large hives; if Langstroth frame, 9x17 inches outside measurement; I would have 13 frames.

Commence in the spring with as many combs as the bees can cover, when honey and pollen is not to be gathered, *stimulate* by feeding rye-flour and sweetened water; insert between each two combs of brood an empty comb; in this you will need to be guided by the prolificness of the queen, amount of bees and the *weather*, using a division-board, until you have filled the hive with 13 frames of brood. Have the hives made with a front or entrance at both ends; these you will regulate, keeping them more or less open according to weather and strength of colony. If you use the Langstroth blocks that have slots, put the slotted side up, as they harbor worms.

Be careful not to put any *drone comb* in the hive, for they will raise a lot of useless consumers and *incite* them to swarm. *Did you ever know a hive to swarm that had no drone-comb?* Have *all worker-comb* full of brood, and the hive crowded with bees, and they will only leave your sweetened water for honey abroad. Put on 12 6-lb. boxes, or better, use a section-box of frames similar to the one used by Clark and Harbison, of California. I make them as follows: Upright side pieces, 1⅞ inches long, 1¾ inches wide, and ⅜ inch thick; top piece, 6¼x1¾x3-16; this piece is nailed on top of side pieces; bottom piece is ½ inch square and 5½ inches long; this is nailed between the side pieces, with one corner downward; for nailing use lath nails. These frames are held together by a thin strip of wood laid in a ½-inch mortice in the center of the outsides of side pieces, and tacked with cigar tacks in the end sections. A 13-frame Langstroth hive will hold four of these section boxes, of 11 frames each, with a storage capacity of 112 lbs, instead of 72 lbs, in boxes. We put 6x7 glass on each end of the section box with glue, these frames will hold about 2½ lbs, and may be retailed separately. These frames give us the advantage of large boxes (bees will store more in a large box than in small ones), more surplus room, and when partially filled they may be emptied with the slinger and the honey sold, instead of laying by from 1 to 4 lbs per box till next season. The frames will need a thin strip of comb as a guide, which may be fastened to the top piece with glue or beeswax and resin, of equal parts.

About once a month it is well to open hives that are run for box honey, and empty any combs that are filled and return, putting them in the center and those filled with brood to the outside.

The season of 1875 has been very cool with us, as will be seen by the following notes kept: Mar. 30, fahrenheit, 80°; April 16 and 17, 20°; remaining cool till May 7, 84°; then about ten days warm, then cool till June 20, then cool nights, being about 55° in morning, and up to 80° at noon. Aug. 22, 5 A. M., 43°: Aug. 23, 5 A. M., 40°; at 1 P. M. of same day, 76°. Aug. 25, 5 A. M., 70°; 1 P. M., 90°; continuing warm till Sept. 10, 5 A. M., 55°; then rained every day till Sept. 18, when we had a light frost.

I set out, March 27, 54 hives out of 100 put in cellar. April 6th, gathered pollen; May 7, first drone seen; bass-wood, apple, wild and tame cherry, plumb; white clover, failed to produce any honey; raspberries, mustard, produced some. July 8, bees commenced and gathered considerable from ebow brush; then, Aug. 10, they commenced on buckwheat, of which we had 25 acres within 1½ miles; they left buckwheat, which yielded well, for the Mississippi bottom fall flowers, gathering considerable till frost, when a heavy rain cut the flow of honey short.

On account of cold weather, bees worked but little in boxes, storing it below, crowding the brood to a small space. Ten hives which I run for slung honey kept crowded with bees and brood, and did not swarm, but those storing in boxes had the swarming mania. From Aug. 25 till Sept 10, I increased to 108 hives, but 3 being queenless I united them with others, leaving 105 to try the winter with.

We took 1,000 lbs box honey and 2,000 lbs slung honey. D. D. PALMER.

Eliza, Mercer Co., Ill., Oct. 2, 1875.

For the American Bee Journal.

What They Did, and How They Did It.

DEAR JOURNAL:—The summer is ended, the honey harvest is past for the year 1875, and it is now the duty of the bee-keeper to repay the little busy bees for their last season's work, by preparing them carefully to exist during the long and cold winter that we are destined to have in this latitude. It is also the farther duty of every bee-keeper to carefully look over his last season's work and see what he has accomplished—comparing his losses with his success, also carefully reading the AMERICAN BEE JOURNAL and then trying to make next season more of a success than the last. That, I consider the way to make bee-keeping a success. I commenced last spring with 18 stocks, 3 of which were queenless; the spring was unfavorable, but I brought them all through; owing to storms I got only about 100 lbs of linden honey; we have no white clover here, from the middle to the last of July. My queens seemed determined to lay in the upper stories; about the middle of August they commenced to store honey and also to swarm; although I extracted once a week, still they would swarm.

I piled up some of my Quinby hives to three stories; it gave me a good chance to experiment with hiving swarms back into the parent stock, hiving swarms with

weak colonies, etc. I have taken about 2,000 lbs of honey, and have 28 stocks for winter. This makes the third year that I have tried to get box honey; I got about 125 lbs and lost more than I made in the operation, in my opinion; for whenever I tried to confine my bees down to work in boxes, they would invariably swarm when the boxes were about half full, and that would spoil that stock for box honey.

I had hives with 12 frames, the frames 12x16, and a 30 lb box on top; still they swarmed; they kept swarming up, until about the 12th of Sept.

If my bees had taken such a swarming fever in June, I do not know where my increase of stocks would have stopped, as it was, I did all I knew how to prevent it.

ED WELLINGTON.

Riverton, Iowa, Oct. 11, 1875.

For the American Bee Journal.

My Success in 1875.

I have been taking the AMERICAN BEE JOURNAL for 7 years, and I have Langstroth, Quinby, Mitchell, King, and have read nearly all the bee literature in the country, been in company and conversed with some of the best apiarist in our country. I thought I was pretty scientific on that subject, but other business had always prevented any application of my science to the business.

However this season I thought I would apply what knowledge I had, and see if I could perform the various manipulations so essential in bee-keeping, and without the successful performance of which no man could claim to be a successful and scientific apiarist, and possibly I might attain some of those marvellous results which I had often read of, but had never seen.

I got my bees Italianized last fall, and succeeded partially; I commenced last spring with 13 hives: 8 full bloods, 2 hybrids, 1 black and 2 queenless stocks. First job in order was to supply my queenless stocks with queens, which I did by giving them full frames of brood in all stages from my best Italian stocks. I succeeded finely, and here it would be well enough to state that I use the Langstroth hive, and I never have lost a colony of bees while wintering it in a Langstroth hive on its summer stand in Mo.

About this time I thought I had performed all I had ever read of, except raising queens; being a carpenter and joiner, it was no trouble for me to make hives, so I made nuclei hives and commenced rearing queens. I began with six and reared every one. So I now conclude I am something of a bee-keeper.

Our locality like all others in the Western States suffered terribly by an uncommonly wet spring, and delayed all bee keeping operations. In fact, they nearly starved to death, were weaker in bees on the first of July than they were on the first of March, and totally destitute of stores, making their daily food from day to day.

About the 10th of July fair weather and flowers came, and bees began to gain rapidly. In the fore part of the season I had increased seven stocks, part natural, part artificial. On the sixth day of August swarming commenced again in earnest, and from that time till the 18th day of September swarming was an almost daily occurrence. On the morning of the 18th a severe frost visited this county and the honey season closed, (on the 21st a swarm came off, the latest I ever knew, I put it in a nail keg; it remained a few days, and then decamped, it could make no honey.) My 13 stocks increased to 43. Most of them in good condition for wintering, but such a great increase was detrimental to surplus honey. I got none.

When frost came, on the 18th, my bees were never doing better, and if frost had only held off, as it usually does here, and as it did in the western part of the state till October 18th, an immense yield of honey would have resulted. I never saw such a profusion of flowers in my life, hundreds of acres of aster, golden-rod, heart's-ease, smart weed, and many other kinds nameless to me. The fields in many places looked like seas of gold.

The three best honey plants are aster, golden rod and buckwheat. We have all kinds of fruit blossoms, white clover, basswood, and I believe every plant and flower and shrub common to the western states in this latitude 39 deg. I call this a good bee country. JOHN BARFOOT.

Montgomery Co., Mo., Nov. 20, 1875.

For the American Bee Journal.

How it Was Accomplished.

DEAR EDITOR.—I see in the October number of the AMERICAN BEE JOURNAL a request by a correspondent, that those bee men making the largest report of honey, etc., for the season, would give their method of management. It would seem that I am among those referred to. One word in correction; it might be inferred from reading my report that I got my comb honey from the 38 swarms, run with the extractor, but I did not. It was all comb honey, that I got from the balance of my apiary. My mode of operating was with the *High Pressure Hive, mentioned in the June number*. Breed up in the spring in long low brood chambers to the full capacity of the queen, until I have a stock large enough to divide. I then operate with the extractor, in the low form, or divide into two swarms and run each division with a super and upper tier of frames or cards, or I can lift one

half the low chamber on to the other and start the extractor with the increased swarm. Usually in this form they do not swarm, but this season most of them swarmed. I would state that I had the advantage of between three and four hundred empty cards. I think it is safe to say that I obtained four thousand pounds more honey than I should if I had not had them, thus showing the value of good empty cards to work with. I shall have about the same number to work with another season if all is well. The ten young swarms I spoke of in my report I do not remember whether they were all from those I run with the Extractor or not. I only know that most of them swarmed once, some of them twice but I put back the second swarms. The 38 swarms averaged about 135 lbs each; from one swarm I took three hundred lbs, and three swarms of increase; another 239½ lbs and two swarms of increase. I suppose it will be borne in mind that I am some nearer the north pole than any other that reported, and in not a very good honey district at that; considering that no honey was extracted after July, I think I did well. I am now preparing my bees for winter quarters, taking off my upper story of cards and can verrify what I said, that I shall get some four or five hundred pounds more when putting up for winter.

A. H. HART.

Appleton, Wis., Oct. 23, 1875.

For the American Bee Journal.

The New Idea Hive.

Under the head of "Notes and Queries" in the July number, Wm. Herring asks how the New Idea Hive is constructed.

I ought, perhaps, to state how mine was made, so that Mr. H., or others, may not be misled by my former communication. Mr. Gallup said his were made double on the sides with one-quarter inch air-space; this being a colder climate than Iowa, I thought it only prudent to make mine a little warmer, so I made it of three thicknesses on the sides and two on the ends, with quarter inch air-spaces. In preparing for winter take off the honey-boards and cover the frames with cotton cloth; then have a frame three inches deep, with bottom covered with cloth and large enough to cover the top of the hive; fill this frame with saw dust and they are all right. I hold that bees are the best judges of the proper temperature of the hive, and they will maintain that degree of heat, if you will enable them to do so. My hives set quite low and the snow drifts around them, if necessary I bank up the snow some, not caring even if they are completely buried. Bees used to winter in this climate in single-wall hives and did well; why don't they now? I don't believe in the theory of bad honey, cold, &c. Honey is probably as good as it ever was, and the winters just as variable and no more so. I am one of the many who think that the cause of the bee disease is, that an epidemic has passed over the country imparing the constitution of the bees, and rendering them more liable to disease from causes that did not heretofore affect them.

My bees wintered well, but the cold spring, I thought for a while would ruin them, they run down so in numbers, and before I was aware of it, more than half became queenless. It was late in the season before the loss could be made good. They are all now in fine condition; I have not increased the number of swarms any, and took honey only from one hive, (about one hundred pounds). White clover, the only source this season, lasted about three weeks.

B. L. TAYLOR.

Minneapolis, Minn.

For the American Bee Journal.

Foul Brood—Artificial Feeding.

Salicylic acid, a new discovered chemical substance has been successfully employed in the extermination of foul brood in Germany. I find the latest report thereon in the July number of the *Bienen Zeitung*. Mr. Mayer reports that he has conquered the disease in stocks where 80 per cent. of the sealed cells were diseased. The manner in which Mr. Mayer uses the acid is very simple; he sprinkles the combs with the acid diluted with warm water and at the same time washes the sides, top and bottom with a rag moistened with the diluted acid. He likewise feeds the diluted acid in the food in "rather strong doses;" but what he considers a strong dose, or how much he dilutes the acid, Mr. Mayer sayeth not. The year before Mr. Mayer melted down all empty comb to prevent the disease from spreading; he now makes use of them, first sprinkling them with the diluted acid.

Salicylic acid was formerly quite dear, but it is now manufactured in America by a chemical laboratory in Baltimore, so that it can now be obtained for less money.

I also noticed in some of the back numbers of the German bee magazines that persons have greatly stimulated breeding, and consequently strengthened their stocks, by feeding milk and also eggs to bees. Not having seen any notice of such practice among American apiarists, I take the liberty of adding the following details as to the method employed:

In one litre (a little more than a quart) of boiled milk, dissolve a pound of sugar and feed to bees, in shallow troughs, at any time of day, without fearing robbers, as the sugar does not attract bees. Mr. Hilbert, who has practiced this kind of

feeding most successfully, fed 30 swarms from the 20th of April to the 20th of June with four and a half litres of milk and four and a half pounds of sugar daily.

Feeding eggs is managed as follows: The eggs (both yolk and white) are well beaten together, after the tread has been removed. One part of eggs is then added to two parts of cold sugar syrup, made by boiling seven pounds of sugar in four pounds of water, care being taken to skim the same. Hilbert feeds about six eggs weekly to one swarm, feeding the quantity mixed with two eggs every other day. When this or any other stimulating feeding has been commenced, it must be continued to the end, that is until the bees are in every way able to take care of themselves, as the sudden lack of food would seriously interfere with brood-raising.

JOHN P. BRUCK.

Los Angeles, Cal., Dec. 14, 1875.

For the American Bee Journal.

Bees in California.

In the AMERICAN BEE JOURNAL for September, 1875, I noticed a communication over the signature of "G. F. M;" a *few* of the false statements of which, I wish to contradict. When I wrote the first letter to the AMERICAN BEE JOURNAL I made a simple statement of *facts* as to the *income* of bee-keeping. I stated nothing as to the *out go*, as I had not enquired into the matter at all. I made no pretention to a knowledge of bee-keeping. Neither did I write the letter with any intention of inducing any person in the world to come here. In due time after the publication of that letter, I began to receive letters of enquiry as to locations, and chances for bee ranches, cost of hives, lumber, hauling, prices of groceries, flour, etc., etc., all of which I answered correctly. I now wish to show up some of the inconsistencies and contradictions of the communication of "J" who received a letter from a "prominent Kansas bee-keeper." By way of parenthesis, I will state that G. F. M., is located on one of the prettiest claims in the county of San Diego just six miles from mine and it is not a "*desert*" by any means. I am at a loss to understand how a man can state in his letter, that a country is a "desert" and in the same letter state the *fact* that the country is "overrun with swifts, horned-toads, snakes, ground squirrels, gophers, rabbits and quails." Query. *What do they* live on? I always supposed that sheep and cattle had to have grass, etc., to live on, and that thousands of sheep and cattle *do live* here and live *fat too*. This, G. F. M., cannot with truth deny.

Now as to some more of "J's" *facts*. "Some 500 or 600 miles" etc. It is 480 miles by sea from San Francisco to San Diego. I have traveled that whole distance overland on horse back on purpose to *see* the country. 50 miles south of San Francisco is San Jose. The plain or valley surrounding which, 20 years ago, was thought by novices like G. F. M., to be a "*desert*." Now it can not be bought for less than from $200 to $1,000 per acre, it now being under a high state of cultivation and covered with vineyards and orchards and fruits of all kinds; and in the fall of 1868, I saw hundreds of bushels of apples rotting on the ground, there being no market for them. 30 miles south of San Jose is Gilroy, with a rich farming country surrounding it. 20 miles south of that is Hollister, with the same. Between Gilroy and Hollister lies Soap lake, out of which flows the Pajaro river, which "reaches the Ocean" all the year round. 30 miles south of Hollister is the valley of the Salinas River which for a portion of the year at least, "reaches the Ocean" in something besides a "dribble," perhaps. (?) "J" knows more about that, than I do.

The valley is a *rich* farming country and *not a desert*, "J" to the contrary, notwithstanding. Next comes San Louis Obispo, with some more good farming country, the people of which, would not thank "J" for publishing their county as a "*desert*." Next comes Santa Barbara, the same. Then comes Ventura Co., with just as good farming land as a man need live on. Next comes Los Angeles with her thousands of acres of orange, lemon, lime, peach, pear, apricot, plum and prune orchards; as fine as any in the world. Also her thousands of acres of vineyards producing vast quantities of grapes, wine, etc. Not *much of a desert*. The average corn crop of Los Nietos, Anaheim, Santa Ana, and San Bernardino, is from 80 to 100 bushels per acre.

When I refer to fruits and harvest fields I *don't* mean a portion of the State 500 or 600 miles north from where I live, but I mean *right here* in San Diego Co. Yesterday I saw a white turkey fig tree three years old, without a drop of water put on it since it was set out, and not a thing done to it in the way of cultivation since the first season. This was frozen to the ground the first winter, and on it I saw 113 figs.

Men who plant and sow here, and do it when and how it should be done, get just as good returns for their labor as in any of the western States, where they are as far from market as we are here. *Good* men get just as good wages and as steady employment here as in any country I ever lived in, and I have lived in Pa., N. Y., Ohio, Ind., Iowa and Missouri; and today, I would not trade my little 160 acres for the best farm in either of those States and be compelled to go there and live on it and work it myself, or hire it worked

for that matter. I am a carpenter and get $3.00 and board as the lowest price I work for. The statement that "Masons they have no use for, as they don't build brick or stone houses on account of earthquakes," is simply laughable. In San Diego, Los Angeles and San Bernardino, there are plenty of brick houses.

It is true that many of the bee men are living without women, "baching it," but many more are not. The *majority* of settlers here have wives and families, and more would have if they could get them *worth having. Good, marriageable white girls, are not very plenty here.* G. F. M., has just called in and I read this to him. We had quite a laugh over it. He confessed that he had the blues when writing it and probably wrote as he felt. He called my attention to a communication from M. M. Baldridge, in the July number of the AMERICAN BEE JOURNAL, that bees in Harbison hives could be bought for $2.50 per colony, etc. John Myers, a resident of Los Angeles, while at my house, told me that he was offered a lot of bees for that price in exchange for cows, and made the rest of the statement as I gave it, I supposed it true. It seems that the case was an exception.

One statement more of G. F. M.'s. "They can't raise a thing here, farming," etc. O. Oakes, at Bernardino, raised over 3,000 sacks of wheat and barley and a large quantity of hay, how much I did not enquire. Benus Sikes also raised a large amount, and many others raised grain, this year, and lots of grain is being shipped from San Diego this year, and a great deal was shipped away last year.

We have no starvation here nor have we been eaten out by grasshoppers as they have in Kansas and other western States.

Bernardino, Cal. W. J. WHITNEY.

For the American Bee Journal.

A Chapter of Failures.

MR. EDITOR:—Many of your readers, doubtless, remember, that two years ago I wrote an article on the "Bees That Were." Well, to-day I might appropriately make a similar heading to this, for my entire apiary of seventy-six stocks have again gone to "that bourne from which no traveller returns." The difference is only in the cause of their disease—namely, foul brood.

I wish to give my experience with the disease, hoping that bee-keepers may be benefited thereby, but perhaps, only in a small degree.

The cause of the disease among my bees remains to-day a mystery to me. But perhaps the perusal of this article, by the "head-lights" in bee-culture, may elicit a solution.

The only theory I can find—but I must admit that to me it is quite unsatisfactory—is this: In the spring of 1874, my bees did not leave their winter quarters in a perfectly healthy condition. They showed signs of dysentery, doubtless, caused by dampness; my clamp was built late in the fall, and hence it did not dry out perfectly before putting in the bees, and the spring being cold and backward, many of them died before the first honey flow. I being absent, my brother took charge of the bees at that time. Being desirous of increasing the bees as soon as possible, and believing that every pleasant day would be the last of cold weather, it was already late, compared with other seasons, he thought to increase the brood by spreading it, and inserting an empty comb. This, however, proved disastrous, as the next cold snap chilled the brood, and the result was the very reverse of what was desired—they decreased instead of increased in numbers.

This is my theory, viz. :—that through the chilled brood, at that time, the disease found its way into the hives; although the dead brood was all removed, as far as I know. But the effect of the disease remained unnoticed; for they increased remarkably after warm weather set in; at any rate, I doubled the number of stocks, and obtained an average quantity of honey, the season being hardly an average one. Now, this to me is a query. If the disease came through the source mentioned, why did it not show its disastrous effects?

Last spring my bees wintered excellently, if dryness and a large number of bees are criterions. Out of sixty-one stocks I found but one dead.

The spring was again cold and backward, but having learned a lesson the spring previous, I did not feel disposed to repeat the experiment of enlarging the brood-nest, so I let them alone, except doing such other work about them as was found necessary. I noticed no dead brood. When warm weather began in earnest, I examined them all closely, and found, perhaps, twelve in a rather weak condition. One was queenless. I lost a couple, the rest I assisted from other stocks. They increased nicely, except three,—this was, perhaps, June 1st,—these had a slight sprinkle of dead brood. Never having seen the disease, "foul brood," I came to the conclusion that, in consequence of the bees being few in number, the brood chilled, the same as the season before. I contracted the brood-nest, and inserted a card of hatching-brood. I was so confident of success in this that I did not look at them for some time. At my next examination I found that they had not increased, also dead-brood was visible. I then examined the queens, and to my surprise I found two of them crippled. Then my theorizing fell at once upon these queens, but there re-

mained still a stumbling-block. There still remained one queen, which, alas! for my theory, was a beautiful young Italian, without any apparent blemish. The thought of foul brood was of all the most distant; it being of such a distinctive nature that I could not believe I could be so unfortunate as to get it; so I experimented anew. I removed the deformed queens, but not having young queens on hand it took some time before brood from the new queens was hatched. The other stand I again assisted from others, and afterward thought I saw a decided improvement in their condition. But with these experiments, time passed rapidly. We were now fully in the swarming season, and my bees swarmed and increased better than ever, except the three mentioned.

During swarming time I was so busy that I did not pay much attention to those. It was now after linden bloom, Aug. 24, when a neighbor, who had purchased six stands of me the fall previous and had two of them affected likewise, had invited two of the prominet bee-keepers in the neighborhood, Messrs. Tenmark and Potter, to call on him, and this was the day of their visit; I also enjoyed their company. Here the condition of our bees was naturally discussed, which finally resulted in an examination of the diseased stands. Mr. Potter, who said he had one similarly affected the season previous, pronounced it "foul brood." This was the first intimation I had of the nature of the disease. I went home, gradually waking up to a very unpleasant discovery. I examined my bees, and *nearly all were affected with the disease;* all except the new swarms, of which I had a few, having mostly divided, and a few others.

The linden flow was so abundant that nearly all brood-raising ceased, in spite of extracting. At the examination spoken of, the first lot of brood since linden bloom was hatching; hence it was the first time possible for me to make the unpleasant discovery, as previous to linden bloom no signs of the disease could be seen, except in the three stands spoken of. Now, what was to be done for a remedy? The season was now nearly over; added to this, it rained almost constantly. On the 23d of August we had a frost, which destroyed some of the buckwheat. I immediately ransacked my file of Bee Journals for a cure. I wrote to D. Burbank and others; but the only thing I found recommended as an expedient and sure cure, is that described by M. Quinby —that is, to put the bees in a clean, empty hive, and let them build up anew. But as the season was too late, I could not adopt this cure, not being able to buy sugar to feed them, even if time permitted. Mr. Dadant sent me a recipe, which has been used in France the past season with great success; it is simply Salicine, in dry or liquid form; if dry, it is dissolved in water, and with a feather brushed over the comb, removing the worst parts with a knife. I tried it, but discovered no good effects. The only thing left me was to winter my bees, and trust to a cure the coming season, or to sulphur them.

The bees gradually dwindling away from lack of sufficient young bees, and the fall season being a total failure, it left many weak and light in stores. Were I to unite them it would have been necessary to reduce them two-thirds. There were other obstacles in the way which made this plan impracticable; so with a poor grace I concluded to smother them, which I accordingly did.

I sold three stocks to a party, about the middle of May; they were some of the best I had; these were removed over two miles from my yard. On examining them in the fall, the old stocks and a divided one were found badly affected with the disease, while three swarms were free from it.

During linden bloom I extracted all the stocks, including the first affected; the scraps I placed outside for the bees to clean out. Now, it may be said that this was the means of spreading the disease among my stands; but how did the bees, over two miles distant, get at the scraps? Of course they *might* have reached them, but it is not probable, as there was an abundance of honey in the field; and why were not the swarms similarly affected? Then they had plenty of storage room.

We have now reached a stage in bee knowledge where it seems that a cure, as regards foul brood, is more easily affected than to prevent the disease, as the cause of it, at least to me, is an unsolved mystery.

I might describe the disease in detail, but I know it has often been done, and as this article is already much longer than I could wish, I will refrain giving a detailed account, unless requested to do so at some future time.

From close observation, I have come to the conclusion that the disease is directly caused by spores,—vegetable growth,—which causes putrid fermentation. This theory is confirmed by an illustration in Mr. Dadant's French chromos. I find much of the putrid matter in the cells lies near the top, and by cutting off the caps with my capping-knife, the knife turned black from the acid, which seems to point conclusively in the direction I have indicated.

What we need to know now is—where do the spores come from? I hope the subject will be thoroughly discussed the present winter; perhaps much benefit may be derived from it.

Parties wishing to write me will please notice the change of address.

Hamilton, Ill. J. D. KRUSCHKE.

For The American Bee Journal.

Wintering.

In writing upon this well-worn subject, we do not propose to repeat old theories, or tell the same stories that others have told. We wish merely to give the results of our observations in apiaries within a radius of twelve miles from our own.

In the fall of 1874, a neighboring bee-keeper had 150 swarms of bees in Clark's patent box hive. This apiarist was one of the procrastinating kind, and though he was going to put his bees in a winter repository, the winter was allowed to pass before he was ready. Meantime the long continued cold weather, an exposure to the fierce north wind, and no upward ventilation, killed 140 swarms of his bees. In all the hives we examined, there was a large space of moisture and rotten comb, just under the honey board, the latter was nailed on tight.

Another apiarist put 20 swarms on the south side of a tight board fence, putting a quantity of straw and corn-stalks around the hives, leaving the fronts exposed to the sun; they came out spring poor, and many of them dwindled away before flowers came. Still another put his bees in the cellar, they came out in good condition in April, but the month proving very cold with frequent snow storms proved too much for 2[illegible] swarms, and only six were left to greet the blooming of flowers. These bees were in large hives that could not be readily moved in and out of the cellar during cold storms, this was evidently the cause of loss, for a neighboring bee-keeper carried his bees carefully in and out of the cellar at least a dozen times, and they all came out strong, and stored an unusual amount of honey. It requires a considerable lugging, and perhaps something of a back-ache, but in this instance it paid for the extra trouble.

Another acquaintance of ours winters his bees about 20 swarms in a 7x9 room, directly in the rear of his kitchen, and there is only a common partition with a sliding door. The kitchen stove is located near this partition and the pipe passes directly through the room; no record was kept of its temperature, but it must have been quite warm at times, as all the cooking and other household work was done with the stove. This room has proved successful for three years, and every season his bees make an unusual amount of honey, one swarm making over one hundred pounds of box-honey and casting a swarm. He uses the common box-hive.

Another bee-keeper having eight swarms, commenced wintering them in the cellar, this proving too damp, they were moved up stairs into a dark room, this also not proving satisfactory, they were moved out doors, and set against the west end of the house, and these swarms, in spite of these frequent removals, came out in good condition, except one hive.

I could give you further examples of successful wintering and of disastrous failures, but from the foregoing examples, I think, your readers can absorb a few hints that may be of aid to them in wintering.

First of all lessons, learn to be prompt in your dealings with bees; oftentimes they will admit of no excuses from duty.

Bees in winter quarters need but little waiting upon, but when the necessary aid is required the apiarist should be on hand, ready for any emergency.

Our bees are in a cellar, ventilated with a pipe from our sitting room coal stove, a strong draft is pouring up this pipe continually. We make it a point to visit our bees every day, to see if every thing is all right. Our outside door is lined with a thick mat of straw, during mild weather the inner door is opened, and air can circulate through this thick mat. The cellar keeps at a uniform temperature of 45°.

SCIENTIFIC.

Dec. 13th, 1875.

For The American Bee Journal.

Foreign Notes.

Does the queen bee lay worker eggs or drone eggs at will, or does she simply do so mechanically, and without any study? This is the question which is now being solved by the Society of Bee Culture, of *La Gironde*.

A discussion took place last season between Messrs. P. Brun and Ch. Dadant on one side, and Mr. E. Drory on the other, in the columns of the journal *Le Rucher*, an excellent little bee monthly magazine published in the city of Bordeaux by the last named gentleman.

Mr. Drory holds that the queen bee, when depositing her eggs, has a full knowledge of what she is doing, and that she lays drone eggs or worker eggs at will. Therefore, according to this able bee-keeper, the queen bee does not begin to lay drone eggs until she feels that the colony is becoming strong enough to swarm, and then she hunts up the drone cells and lays in them. Mr. Drory holds that if a queen is furnished only with worker cells, she will, at a given time, lay drone eggs in these worker cells, so as to provide the colony with drones. On the other hand, he says that a queen in a hive with nothing but drone comb will lay worker eggs in these drone combs.

Messrs. P. Brun and Ch. Dadant hold that the queen does not know whether she lays drone or worker eggs, but that she has more pleasure in laying worker eggs than drone eggs, and that she will only lay drone eggs when she has no longer any worker cells within reach. They hold that if a queen is placed in a hive

containing no drone cells she will lay only worker eggs, and that if a drone comb only be given her she will lay drone eggs in the cells. They hold that a queen can be made to lay drone eggs early in the spring by giving her some drone comb in the middle of the brood chamber, but that she will lay drone eggs only when she cannot do otherwise.

This discussion was brought before the Society of Bee Culture of *La Gironde*, and a commission of three members was elected by the society to make experiments on this subject. An empty hive was furnished with five combs containing drone cells only, one of which was full of honey. A colony was placed in it with a queen newly fertilized. The queen was very prolific. The hive was put in the cellar on the 7th of September, and left there ten days. The queen had not yet laid any eggs. On the 24th of September, *i. e.*, one week after, she had laid about 100 eggs in a part of the hive where there were about twenty worker cells. On Oct. 1st the hive was opened again, and it was ascertained that the brood was partly sealed, and that all of the caps were flat. Several of the drone cells were then opened, and it was ascertained that they contained worker chrysalis; that these workers were well formed; that they had all the characteristics of worker bees; that these bees did not occupy all of the space in the cells, and that in none of the cells had the walls been thickened or the cell made narrower. On Oct. 8th the hive was opened again, and it was found that a certain number of bees had hatched; that they were all worker bees; that the bees, when hatching, made an opening in the cell of the exact size of their body, and that the remnant of the cap remains around the rim of the cell. No chrysalis of drone was found.

This seems quite conclusive. Still Mr. Dadant says, that as the drone comb was dark and old, he would like to see the experiment tried again with new combs. He thinks that the drone cell may have become narrow from age and use.

We will keep our readers informed of the future experiments of this commission.

C. P. DADANT.

Hamilton, Ill.

The Michigan Bee-Keepers' Association.

KALAMAZOO, Mich., Dec. 1, 1875.

The Ninth Annual Session of the Michigan Bee-Keepers' Association convened in Corporation Hall, at 2 P. M., Vice-President A. C. BALCH in the chair. A large number of the leading apiarists of this and adjoining states were present; and but for untoward circumstances, the number would have been much greater. The annual session of the National Society at Toledo, O., which commenced today, prevented many from meeting with us, while business engagements compelled the absence of several of our most active workers, among the number being President BIDWELL, Prof. COOK and Mr. F. F. BINGHAM. But the enthusiasm of those present compensated for the lack of numbers, resulting in one of the most valuable gatherings we ever held.

President BALCH stated that as this was an annual meeting, the regular business of the Association would be transacted before taking up the programme of the convention. The Secretary read the minutes of the May convention, which were approved. The Treasurer's report exhibited a handsome balance in the treasury, evidencing a healthful monetary condition. The Secretary then read a detailed report of his work for the Association for the past year. He stated that our Association enjoyed the reputation of being the oldest existing organization in America, and that he had received evidence from various sections of the country that our proceedings were looked for with even greater interest by the masses of apiculturists, than those of the National Society.

Notices of the meeting were widely circulated, and an extensive correspondence instituted with a view of obtaining as many essays on practical and scientific topics of interest to bee-culturists as possible; many good promises were obtained, but very few papers were received. He also stated that many complaints had been received because the convention was held at the same time as the Toledo meeting. In explanation he cited the convention to the fact that when we adjourned last May, it was the general impression of those in attendance that the Toledo meeting would occur the week previous to our own, as their reports stated it would be held in November. From this it would readily be seen that we entertained no desire to interfere with that body, and that if any charge of interference was to be sustained, it lay at the door of the management of the National Society. After the transaction of other business, the programme of the convention was taken up by the reading of a paper by J. P. MOORE, Binghamton, N. Y., entitled "The House Apiary," by the Secretary; in introducing the first topic: "Will the introduction and general use of the 'House Apiary' be advisable?"

Mr. MOORE stated that after three years experience with the House Apiary he could say but little in its praise; that it gave no better results in honey; the bees would swarm even worse than out of doors; and that it was ever so much more work to manage bees in the House Apiary than out of it.

The subject being comparatively new, it elicited but little discussion, though it was the general impression among those present, that it was unsafe to invest in House Apiaries from our present knowledge of them.

Pres. BALCH—I think that most of us will agree that, in this, as in all other delusions, it is better to let well enough alone.

JAMES HEDDON thought it exceedingly imprudent in this Association to question the practicability of the House Apiary, since A. I. Root had built a House Apiary, had talked, run, and photographed it. Thus it will be seen that we are most effectually forestalled in the discussion of this question.

H. A. BURCH stated that the problem was a new one, but thought it advisable to consider it, inasmuch as it was attracting much attention among bee-keepers. If it be altogether impracticable as now seems probable, the sooner we know it the better.

The next topic, "Winter Bee-Keeping," was introduced by a paper on that subject from Rev. A. SALISBURY, Camargo, Ill. Mr. S. considered the philosophy of hibernation at considerable length, the discoveries and teachings of science and their application to the subject so as to secure uniform and complete success in this particularly hazardous field of modern apiculture.

Pres. BALCH—Though I may ride a hobby in the frequent repititions of my views on this subject, yet I will again repeat them by saying that my experience has been—the less ventilation of the hive during the winter months, the better. Nature guides the bees to seal up the hive perfectly tight as the fall months approach. This is the result of instinct implanted in the bees by their Creator, who is wiser than we. Upward and lower ventilation produces a draft of air through the hive. This disturbs the bees; those on the outside are constantly trying to get inside the cluster. This causes them to eat, and the result is dysentery. 'Tis true that a little moisture may accumulate in the hive, but no mould will collect that will not vanish during the first week of warm weather in spring. I never disturb bees so late in the season that they cannot again seal the hive up tight.

H. A. BURCH—Mr. Sailsbury's success is certainly a point in favor of his theory and practice. Success is the measure of the value of any method.

Pres. BALCH—While this is quite true, they might have wintered even better with no ventilation at all. Try it and see.

JAMES HEDDON—Has any one made a careful series of experiments with a view of testing this ventilation business?

Dr. W. B. SOUTHARD—I have done so; but it wasn't last winter when my bees all died. Some years ago I gave nearly all of my bees an abundance of both upward and lower ventilation; they wintered well but consumed lots of honey. This winter I removed all honey boards, placed a piece of sacking on top of the frames and covered it with two inches of bran. By using a double thickness, found the lower one 10° the warmer. Wheat bran is an excellent non-conductor, and absorbent of moisture. Very little moisture has accumulated in my hives thus far. With upward ventilation large amounts of honey are consumed—three times as much as with none at all. 'Tis impossible to keep an even temperature in the winter repository; but we should approximate it as nearly as we can. Bees winter more safely in box hives than in movable combs.

JAMES HEDDON—In the winter of 1871 and 1872 two of my neighbors had sixty-five and eighty-five stocks respectively. In the following spring they had but one apiece left. All the other bees kept in the vicinity died. These bees had increased from small beginnings and had been wintered with no loss in previous years, under precisely the same treatment. All were wintered on their summer stands in box hives. Where this bee-disease prevails our bees *will* die—saltpeter won't save them—which renders the business extremely precarious.

Dr. SOUTHARD—By keeping the hives tight at the top you keep the bees warmer.

H. A. BURCH—And foul air accumulates in the hive.

Pres. BALCH—Will our medical brethren please state whether the air is more foul in a tight room at the ceiling than at the floor.

Dr. SOUTHARD—In the absence of a direct experiment, could not say, though doubtless at the floor. Ventilation at the bottom of the hive will eliminate the foul air.

A. S. RANNY—The air at the bottom of a perfectly tight living room, is the most destructive of life.

Dr. A. S. HASKINS—The above is in accordance with the teaching of science and is doubtless true.

JAMES HEDDON—In younger years I supposed there were certain fixed facts applicable to everything, but have found it is a mistake. For generations back it has been supposed that loading a gun heavily will scatter shot; but such is not the case, even though our grandfathers did believe it, and many of the people of to-day believe it still. Years ago everybody recommended upward ventilation; it was all the go from Langstroth down. Mr. Langstroth relates an instance in his book of a friend wintering seventeen stocks on their summer stands, only one having upward ventilation. The mercury went fourteen clapboards below zero, and the bees all died save the one that was all

ventilation. During the past two winters I have given my winter repository both upward and lower ventilation; have ventilated some hives, others had none, but it makes no difference. Neither does the kind of food they have to eat; some of mine had all basswood, others all flowers, never saw any difference in results. What kills our bees *is a disease* which I know little of, save that it is intestinal. Can save more bees when they are diseased by keeping them at a uniform temperature. Keep the temperature at the point the bees call for—the degree of heat in which they are almost perfectly quiet. Two years ago my bees were satisfied with 42°; last winter they insisted on 32°. The past season I saved swarms that had been sick for two months—not in good condition—though by using combs that were employed last year in raising nine cent extracted honey. I increased fifty stocks to one hundred and five, to raise twenty-five cent box honey with another season. When the bees are a little sick, good care will save them; but if badly affected saltpeter won't do it.

Pres. BALCH—Prof. Cook carefully tested the ventilation theory some years ago. A hive was heremetically sealed up in the fall and allowed to remain so all winter. When spring came the bees were all in good condition except Balch's that could'nt be resurrected. But the bees were not dead, only in a semi-dormant condition, and proved to be worth more than any three of the others. What *produces* the disease is upward ventilation; it makes bees eat—they can't void their fœces—they die of dysentery.

JAMES HEDDON—'Tis an epidemic and not contagious. Four years ago when my bees all died, I brought in a box hive from the country in midwinter and placed it in the center of the cellar, surrounded by other swarms; all the others died while this one came out in splendid condition even though it was badly stirred up in getting it home.

T. S. BULL—Have wintered my bees in my house cellar for many years with splendid success, never having lost all. My plan is to remove honey board in the fall and cover tops of frames with a piece of factory; as the spring months approach, cover the cloth with sawdust. The cellar is dark though a light is carried in often to procure vegetables; temperature uniformily 50° Farenheit.

JAMES HEDDON—It is generally supposed that brood-rearing in a winter repository will lead to disastrous results; will Mr. Bull relate his experience in this direction?

T. S. BULL—Two years ago a hive accidentally fell from a shelf on which it had been placed, to the bottom of my cellar, smashing the combs. I cleaned up the muss as well as I could, and succeeded in patching up a couple of combs. These were placed in the centre of the hive with an empty frame between them. Those bees filled that empty frame with comb, the queen deposited eggs therein, the eggs produced perfect bees, and the swarm came out in splendid condition. The honey that was daubed on the hive and bottom board stimulated them to breed. I take no precautions against noise; they soon become accustomed to it, and remain quiet.

Dr. SOUTHARD—Noise will not disturb bees at 35° when it will at 50°.

JAMES HEDDON—At our May convention Mr. Bingham gave a detailed account of his system of ventilating his winter repository, which is admirable, as he can keep the temperature at any given point. Still he has lost heavily, and is now in the South with his bees, because he *knows that nothing will save diseased bees* in a cold climate. When bees are diseased don't disturb them. If anything ails a babe it wants to eat. (Had I realized that our medical brethren were present, I wouldn't have said it.) 'Tis just so with a dyspeptic man. Nature's prime want is hunger. An abnormal condition of the system—physical weakness—calls for food, for relief, which at best is only palliative, but more frequently an aggravation. Disturb bees and they will eat.

Pres. BALCH—'Tis instinct to eat. They carry honey with them when they swarm, which is natural.

JAMES HEDDON—This is true of summer, but not winter. Has any one present ever wintered bees so they would not speck the snow in spring? This is what I would term perfect success.

Pres. BALCH—Have heard of such instances, but they have never come under my personal observation.

JAMES HEDDON—I want neither too old nor too young bees to winter well. Bees should not rear brood so late that the young bees cannot fly freely.

Dr. SOUTHARD—No doubt some have had admirable success in wintering with upward ventilation; but they will eat more. My experience says that this has nothing to do with the result, however. Heat and cold is at the bottom.

The Secretary then read a paper from J. H. NELLIS, Canajoharie, N. Y., on "Success in Bee-Keeping." Mr. N. gave a very correct and comprehensive epitome of the requisites of the art, which was well received and discussed as follows:

JAMES HEDDON—This is one of the best papers ever read before a bee convention. I do not wish to criticise for the sake of picking flaws, but will discuss one or two points contained in Mr. Nellis' paper. When bees were plentiful in box hives and cheap withal, capi-

tal was of "secondary importance;" but the low price of honey and high price of bees makes capital inseparable from success. To succeed we *must* have capital in the shape of a large apiary, all the needful appliances for rapid manipulation, and a business eye for "the main chance." Avoid having too many irons in the fire, and give your business your undivided attention. Bee-culture don't agree with farming nor any other business. There will be a clash and one or the other neglected, and of course unprofitable. The average bee-keeper must have strong stocks to make a success of "honey gathering rapidly." A good mechanic can make a good job out of poor stock, but a poor mechanic will make a poor job out of the best stock. The same is true of bees; a skillful apiarian can secure good yields of honey from weak stocks. An extractor is a convenience, not a necessity. Occasionally it will come in play for extracting broken combs so as to patch them up. Will you raise 9 cent extracted honey for a dull market, or 25 cent box honey for a ready market? My advice is to keep larger apiaries and raise honey in small glass boxes.

T. S. BULL—How would you dispose of our dark fall honey? Will *that* sell in boxes?

JAMES HEDDON—Most assuredly it will. My father is a traveling agent for a manufacturing firm of our town, and is thoroughly posted in regard to the best honey markets of the country. He recently advised me to quit using the extractor altogether, as the price of extracted honey is constantly receding. He says that box honey only will be profitable in future; and that the darker grades will sell well in a 2½ pound box.

DR. SOUTHARD—Will not the bees crowd the brood chamber with honey, when the extractor is not used?

JAMES HEDDON—My opinion is, that an extractor is *never* necessary for this purpose. Seven years of practical experience in the apiary is the basis of this belief. Mr. Burch has succeeded admirably in securing box honey, with no aid from the extractor, while Mr. Bingham regards its use as of no advantage whatever. Don't use large hives, but small ones; the bees *will* breed below and store honey above in boxes.

[*Concluded in our next.*]

For the American Bee Journal.

How Are The Mighty Fallen.

It is rather amusing to hear the champions of the Honey Extractor "go back" on their old hobby. They were riding it so long that I thought it impossible for them to fall off. But, lo, even the ever-changing Novice lost his balance and fell with a thud. "No more Honey Extractors!" "Too much liquid honey!" "The price is not remunerative and the market is overstocked."

I am sure the market is not much overstocked with *good* honey, but the truth of the matter is the Extractor does not secure the enormous amounts that Novice's "All-Metal light-running" machines are represented to do. *Ex nihilo nihil fit.* Nature produces the honey and the bees gather it and always find room to store it in their own hexagonal jars.

The work required in the use of Extracter, going from hive to hive, removing the comb, uncapping the cells, returning the comb and closing the hives, begins to tell on these Extractor champions, and they cry out.

Twenty cents per pound is a paying price in "hard times" for box honey, and if three times the amount of extracted can be produced, as we have been told over and over again, (see back volumes of of Journals), why not hold to the Extractor? Extracted honey per pound 8cx3= 24c. Here could be a gain of 4c on box honey.

Gentlemen, please be consistent. "Truth is mighty and *does* prevail."

Novice is to be pitied as "Othello's occupation" seems to be gone.

Since the Honey Extractor "wild fire" wears such a "long face" and bewails its misdirected efforts, would it not be wise for us to be a little easy on the Foundation Combs? H. H. FLICK.

Lavansville, Pa.

HOLDING FAST TO ITS OLD NAME, which it has carried successfully through the long period of *thirty-four years*, the *American Agriculturist* swings out its banner for the "Centennial Year" with the vigor of the prime of life, and with well founded promises of still greater achievements in its appropriate sphere—that of a plain, practical, highly instructive and trustworthy family journal. Its name, adopted at the start for a special field of work, has become almost a mis-nomer, because it is now equally useful to City, Village, and Country. The closing number of volume 34, now before us, like its usual issues, is full of good things, varied in contents, which are prepared with much labor, thought and care, and illustrated with over 60 well executed and well printed original sketches and engravings. This *Journal* is a marvel of cheapness, beauty and utility, costing only $1.60 a year, postage included, for its more than 500 double pages of useful information, and 500 to 600, or more, of fine engravings. Every family should have it.—ORANGE JUDD COMPANY, Publishers, 245 Broadway, New York City.

Notes and Queries

ANSWERS BY MRS. TUPPER.

My bees in the cellar are very uneasy—they keep up a continual noise and many of them are running about the entrance and outsides of the hives. What causes this, and how shall I quiet them? H.

They are too warm or else your cellar is light. Reduce the temperature in some way; leaving the outer door open at night is a good plan and exclude every ray of light. If there comes a warm day, set them all out for a few hours and let them fly, then put them back.

I have 4 Langstroth hives with honey boards. Were put in cellar Nov. 4th, that being a clear, dry day. From various causes was only able to feed them up to that time 9 lbs sugar in 3¼ gallons water to each hive, besides which they had about 3 lbs honey each. Entrances contracted to about 5 inches in length, and are ⅜ inches high, and are now covered with wire cloth. My intention is to take off honey-board and put on a box or frame the same length and width outside as the hive, having a bottom of bagging or some similar substance of loose texture, sides 2 inches deep, with top of woolen cloth, and filled in with cut straw. Temperature of cellar to-day is about 53° Fahrenheit, and the bees in three hives are excited and buzzing. Shall I feed them, and if so, how? The cellar is dark. C. E. S.

Your cellar is too warm—and that is one reason of the excited state the bees seem to be in; 40 Fahrenheit is warm enough—lower than that will do well, never higher.

We think you put your bees in too early, and would advise, if there comes a warm day, to set them out and let them have a good flight. Your idea of top boxes is good, but they should have been put on before you put the hives into the cellar. We avoid all disturbance after they are put away. Put a pound or two of plain sugar candy over the frames under the box on top, and remove all wire from the entrance. The confinement helps to make them uneasy. After having them put away once more, let them alone until the 1st of March. After that they may be set out, and fed if necessary.

Voices from among the Hives.

SANILAC CO., MICH.—Dec. 7, 1875.—"In the spring of 1874, I had 48 stocks in Langstroth hives, all common bees; increased to 54, good season. I got 4,200 lbs of box-honey, and 1,500 lbs of frame honey. Our honey-producing plants are: white clover, raspberry and buckwheat. By August 1st bees became numerous. As I did not like to have them idle I put an empty hive on the top of the other, and three eleven pound boxes on the top of that. Honey was 18 to 20 cents per lb. The year 1875 was a poor season; cold and dry. On the first of April, I set out 52 stocks, most of them wintered very poorly; I lost 12 in spring by dividing. Reduced to 40 stocks; increased to 56 by dividing; only 36 made any surplus. They made 3,000 lbs box honey, besides enough to winter on. Price of honey, 20 to 22 cents a pound." JOSEPH LEE.

WOODVILLE, MISS.—Nov. 19, 1875.—"In the spring got from 120 to 130 lbs honey per hive, counting nuclei and all—about doubled stocks. No honey after August till the 27th ult.; for eight days did well; filled from five to eight frames heavy and others light. Unprecedented dearth, previous to this little harvest, caused a sad thinning in the ranks of my little workers and I have doubled up a number of stocks and given away seven or eight. Poplar is unrivalled, blooms from April 1, for about four weeks. Holly, from 13th April about four weeks, and sweet-bay from March 22 about 10 days. Linden is not plentiful; clover (white), very abundant, but yields no honey for me. Sourwood, chincapin, sweet gum, black gum, water oak all did well this year, also the crape myrtle and china. Last year the golden-rod surpassed everything else, this year it has scarcely been visited by a bee—so I find it hard to determine the relative value of our best plants. No frost yet to hurt and flowers abundant but no honey." ANNA SAUNDERS.

LEE CO., MISS.—Sept. 7, 1875.—"Last spring I opened a hive about 9 o'clock in the morning, in which there was an Italian queen that would have been five days old at 11 o'clock the same day. In the hive was a small piece of drone comb. I was surprised to see an egg in each drone cell. I opened the hive again in the evening, and there were no more eggs. The next morning there were 2 eggs in every drone cell, and in some, 3. No more eggs were laid for five days, when she began to lay worker eggs. I have been keeping bees 8 years, and have read everything during that time on the subject that I could get hold of, and I have never seen an account of a similar case. The drone eggs hatched, and in due time were capped over."

T. W. JOHNSON.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, FEBRUARY, 1876. No. 2.

Our Prospects.

We most heartly thank our numerous friends for their efforts to extend the already large circulation of THE AMERICAN BEE JOURNAL. We enter upon the work of the year 1876 with excellent prospects.

The "old and reliable" AMERICAN BEE JOURNAL has a reputation and standing the world over, and is alike welcomed, in the North, South, East and West on this American Continent, and in Europe and the "Islands of the Seas,"—making it at once the standard magazine of apiculture for a world. The influx of new subscribers during the past month has been larger than ever before, notwithstanding the general cry of "hard times."

"Excelsior," being our motto, we shall leave no stone unturned to keep and maintain the proud position so long occupied by this, the oldest Journal of apiculture in the world.

Finding our space too limited for the amount of valuable matter prepared each month, on which to regale our readers, we contemplate adding from eight to sixteen pages to each monthly issue, hereafter. The March number will be a gem, and will contain matter of vast importance to bee-keepers everywhere.

Since issuing the January number, we found that we had not enough to meet the requirements of new subscribers, and we have had to reset and republish another edition for that purpose. We can now supply all our new subscribers with that number. PUBLISHER.

☞ A correspondent desires some one in the habit of shipping comb-honey, to give a description through the AMERICAN BEE JOURNAL, of the manner found to be the most successful. Will some one please send us such a description in time for the next number?

A Mine of Sweetness.

Generally, when we hear of rich strikes, it is in the gold or silver line; but this time it turns out to be honey, pure and sweet. A few days since, as the workmen on the tunnel at Cajon Pass were hauling over some rocks, they came across a deposit of honey and took a pole and ran it into the mountain and were surprised to find no bottom. They got a longer pole some twenty feet long, and were unable to touch bottom with that. Upon withdrawing the pole, the honey began to run out, and soon tubs, buckets and two barrels were filled, and still it flowed. Some parties came into town and loaded up with barrels, and propose to make a business of it. They put in a charge of powder and blew off a portion of the rock, which disclosed tons upon tons of honey. Our informant states that after exploring it from below to where the bees were found to enter, it was found to be about one-fourth of a mile, and in his opinion, that the whole cavity is filled with honey; he estimates over one hundred tons in sight, and believes that one thousand tons would not be an unfair estimate. This immense deposit cannot be equalled by any ever found. According to the above estimate, it would take every barrel and hogshead in San Bernardino to hold it.

The above is from the San Bernardino *Argus*. It is a story rich and rare, and is being copied extensively into other journals. If it were true no doubt some of our prominent bee-keepers near that place would have given us a description of it. Will some one in that locality please let us know if there is *any* truth in it.

Alvin Taylor, of Proctorville, Vt., has taken thirty boxes of honey, 280 lbs., from six swarms of bees the past season, besides leaving enough for the bees to feed on through the winter. He has been keeping bees for twenty-seven years. Within the last eighteen years he has sold over four thousand pounds of honey, which averaged him twenty-five cents per pound.

"AMERICAN BEE JOURNAL:—Mrs. Tupper's 'Management and Culture of Bees,' for which I sent to you a few days ago. came, and has been read. It seems to me, her chapter on transferring, pages 14 and and 15, is calculated to lead the beginner into a fatal mistake. She says, in substance, as I understand her, that when the old gum has been removed, inverted, and the queen, with a majority of the bees, have been drummed into the cap, the cap must be removed to a cool place, the old gum sat upon its original stand until the flying bees enter, then removed to a new location, the new hive is to be placed upon the old stand, and the bees, with the queen in the cap, are to be shaken out in front of the new hive. Mrs. Tupper has written this little book for the guidance of the beginner—the novice—in bee culture. Now how are we, beginners, to know whether the queen passed into the cap with the other bees? How are we to know, but that she is still in her old quarters, with the few bees that may remain therein? If she shall so remain, what is to become of the new colony? They are queenless, and without the means of making one. For the sake of safety, ought not Mrs. Tupper to have instructed her readers, to give the new colony, a card or two of brood, with eggs, so that in emergency, a queen might be made? Will she "rise and explain?"

Columbia, Tenn. W. S. R.

We have always so advised, but where could she find a card or two of brood to give the queenless colony *at that season?* As a rule, it is always safer to give every new colony, whether artificial or natural, a frame of brood when it is hived. But if in the fall a hive be found queenless, it is often impossible to replace the loss.

The little book referred to is condensed information, and in so small a space it is impossible to give every particular. The beginner, however, who follows the advice there given will be safe; for in forty-nine cases out of fifty, the queen will go up among the first that leave after the bees have been properly alarmed. We have repeatedly seen her go among the first dozen. If she is not out with them they will not remain in the empty box, but fly out and remain in the air. If these directions are followed you will almost invariably succeed. Our idea is that beginners are only confused by a multiplicity of words. They need at first, directions which can be safely followed, without *asking the reason* why. The reasons can be given in another place. E.S.T.

SWARMING IN DECEMBER.—The Fredonia (N. N.) *Express*, speaking of the peculiar weather of December, says:

"But we have even more startling testimony to present in regard to the weather E. H. Darby, of Pomfret, on the last day of December hived a swarm of run-away bees. When Mr. D. tells this story he looks and acts as if he expected to be called a liar. But he states a fact, though it is an event that probably never before occurred in one of the northern States."

MARKETING HONEY.—A correspondent of the *Home Journal* advises apiarians to sell their honey, as far as possible, direct to the consumer. In that way he gets the advantage of the good quality of his honey, and soon finds that consumers are willing to pay a better price when they know that they get a good article, and not glucose, sugar-syrup, etc. That the true way to increase the consumption is to give a taste of the best. That he has found that those who the first year purchased only a few pounds, the next ordered 50 to 150 pounds.

☞ Parties sending merchandise or papers through the mails with any writing inside or on the wrapper, other than the address to which it is to be sent, subjects the whole to letter postage. Articles for the press must be paid for at letter postage rates. Correspondents should make a note of this.

☞ Particular attention is directed to the notice of the N. E. Bee-keepers' Meeting at Rome, N. Y., on Wednesday and Thursday, Feb. 2d and 3d, 1876. The notice was omitted from our January issue by an oversight. Let there be a full attendance.

☞ We call the reader's attention to the new advertisement of C. F. Lane. He offers seeds for honey-plants, at reduced rates. Bee-keepers will do well to club together and get a quantity by express, as the rates by mail, as now arranged, are exorbitant. Mr. Lane will do all he advertises to do.

☞ Attention is called to the advertisement of J. Oatman & Co., who have given their spring price list for queens and colonies of bees. They guarantee satisfaction.

National Bee-Keepers' Association.

The annual meeting of the National Bee-Keeper's Association was held at Toledo, Ohio, Dec. 1, 2. As the Secretary has not furnished us with the detailed report, we glean the following from the Toledo *Blade:*

The first question discussed was, "What is the best method of preparing bees for winter and spring management; also, how many bees are necessary?"

Captain W. F. Williams, of Liberty Center, Ohio, said he was in favor of plenty of ventilation. Had had a colony of bees for the last eight years that had openings in the hive, so that the little fellows could look out at any time and admire the starry heavens, and those which were thus exposed were always strong and healthy. His motto was to keep strong, full colonies, with plenty of ventilation, dry and quiet. Successful spring management depended upon successful fall and winter management. He had tried double-walled hives, with no better success than those with a single wall.

Mr. B. B. Overmeyer, of Findlay, Ohio, said that his experience had taught him that the best time to begin to prepare bees for winter was about the first of August, and see that they got plenty of stores and young bees until frost came, as the weather became cold, to contract the size of the hive so that there would be no unnecessary room to keep warm, with plenty of comb to cluster in and over and down two sides of swarms with a little ventilation in the cap, and about one-third summer fly-hole open below, to protect hives from storms of rain and snow, and let the bees rest in peace until spring, then stimulate them and enlarge the room as needed, but no faster.

The next question discussed was, "What Caused the Great Mortality of Bees Throughout the Country last Winter?" Mr Jonas Schell, of Connellsville, Indiana, said that in his section starvation was principally caused by bees not being able to get any honey on account of the cold. Mr. Blair thought that bees did not freeze, as a general thing. The good honey season, bees crowded the queen bee out so that the swarms were too small, and in consequence of the same they froze.

Mr. G. W. Zimmerman thought young bees were wanting according to his idea, and recommended placing in a warm place frequently to recuperate. President Benedict thought that when there was too much honey it should be extracted in time, and bees should not be too young to Winter. A swarm too small would chill, of course.

The President thought the mortality among bees last Winter was caused by a disease.

The question of what, how and when bees should be fed, was next taken up and discussed.

S. L. Diehl thought sugar syrup was an excellent food for bees, and cited an instance where one bee-keeper had fed over a hundred pounds of sugar and with good success. Mr. Zimmerman wished to know if the bees did not cap over honey, made where sugar was fed. Mr. Diehl replied that they did not. Mr. J. W. Lindley, of Iowa, said he lived where they had honey by the bushel. He had generally taken a sharp shovel, and shoveled off the top of the comb, and given the bees free access to it. The thing worked well in the fall, but he did not know how it would do in winter. Mr. H. R. Boardman had successfully fed bees a composition of two pounds of sugar to a gallon of water, and a pound of flour. This made a food something like honey, and he had been successful in feeding it. The President said it would not do to give bees honey or molasses through the winter as it would occasion dysentery. He fed clarified "A" sugar, eight pints sugar to five pints of water; it made as good food as honey itself.

The next question debated was, "The Best Mode of Increasing Swarms." Mr. J. W. Lindley had used all styles of hives. His wife said that if he raised bees he must do so naturally. He put the new queen back in the hive and generally had large swarms in two or three months after. Mr. A. Bair said he had read that Quinby remarked that a queen bee introduced to a few bees was equal to a swarm of bees. Mr. Lindley had had a different experience; only a *fertile* queen put back in the hive, as he had experimented, was equal to a swarm of bees. In twenty-four hours after she was put back he would have plenty of nurses. Mr. Hill thought that this process was well enough where the object was to make honey, but where increase of stock was desired, he thought that the better plan was to divide up the swarms. He had done so several times, and subdivided them as often as he found queens, and very successfully too. Mr. Lindley always caged the old queen, and had most generally been successful in so doing.

Mr. J. W. Zimmerman had made swarms in August from strong swarms. It was always proper to consider the condition of bees when swarms were made. They should be divided into as many cells as there were swarms desired. He would advise that course more than any other.

Mr. A. Bair would advise artificial swarming.

Mr. H. R. Boardman's plan was to double the hives one over the other. When they brooded in both hives, and the queen could not lay enough eggs to keep them busy, he separated them and let them fly into either hive.

Mr. Snidley calculated to have about 300 pounds of surplus honey each fall with which to buy swarms. Mr. Schell had given up artificial for natural swarming. A colony previous to swarming were not inclined to worker comb. To increase worker comb, he found nothing like an old swarm being put into an empty hive. The bees would cluster in that hive and if not given comb, would generate wax and fill the comb with honey. Mr. Deihl had found artificial swarming always successful where there had been a division of the swarms. Mr. Bair would prefer natural swarming for honey, but not for increase.

The Convention seemed about evenly divided in opinion as to the propriety of natural and artificial swarming, both methods having a number of warm supporters. All agreed, however, that artificial swarming should be made as nearly natural as possible.

Mr. Bondman moved that a vote of the Convention be taken. The motion was carried, and the vote showed that 18 were in favor of artificial swarming, six in favor of natural swarming, and 12 were in favor of using both methods, as the case might be.

The next general question, "What is the best method of rearing and introducing queens?" was then taken up. Mr. A. J. Hill, of Mt. Healthy, stated that he was engaged in the raising of queens, and said that he took three nice bees, divided his stock, and put half with the queens and half without. As soon as the queen cells are ready to hatch out he cuts them out and puts them in new frames, and puts the old combs into the former frames, and continues this through the season. Raises all queens in large hives. In introducing queens he takes out the old queen, puts the Italian queen in a wire gauze frame, and places that in the center of the hive, and in a few days it is generally perfectly at home.

Mrs. M. A. Bills wanted to know if it was a common thing for queens to leave their stock, and of their own accord go to queenless hives, and wanted to know how the custom could be kept up, for it was a very desirable one.

It seemed to be the opinion of the majority of the members that the case was of frequent occurrence, but that it was seldom that it occurs as often as was mentioned by Mrs. Bills.

Mr. Zimmerman was in favor of introducing queens in cages.

Mr. Butler said he got his stock in the best possible condition; then removed the queen, and on the twelfth day divided the stock that had been making queen cells and then after a few days put them together again. Didn't think the queen could be introduced except by caging, unless it was put in as soon as the queen was taken out.

Mr. Benedict had a novel way to introduce imported queens. He drummed up the queen and destroyed it. He then took a cup of water, put in some essence of peppermint, and threw it over the swarm. When they came out of the stupor which the peppermint and water threw them into, they would accept the new queen without any trouble.

Several members took the queen to be introduced, put her in a wire cloth cage, put it in the hive and put honey around it. The bees will then come there, recognize the flavor of the honey, and soon they recognize her and accept her into the hive.

For the ensuing year, G. W. Zimmerman, of Napoleon, Ohio, was chosen President; B. B. Overmeyer, Lindsey, Ohio, Recording and J. W. Lindsey, Mitchell, Iowa, Corresponding Secretary; J. S. Hill, Mt. Healthy, Ohio, Treasurer, with a list of Vice Presidents representing various States.

Philadelphia was selected as the place and the first Wednesday of September, 1876, as the time for holding the next annual meeting.

N. E. Bee-Keepers' Association.

The sixth annual meeting of the Northeastern Bee-Keepers' Association will be held at the Stanwix House, in the city of Rome, N. Y., on the 2d and 3d of February, 1876. The first session will open promptly at 1 o'clock P. M., of the 2d. Papers of value have been promised by some of our most noted and experienced apiarists from abroad. Every effort will be made to sustain the national reputation which this Association has gained. Several members are expected to read essays or prepare addresses. Come prepared to report accurately the season's operations. We wish to know the number of stocks kept, spring and fall; condition, kind of hive, amount of honey produced, box and extracted, wax made, remarks on the value of the honey season, etc.

CAPT. J. E. HETHERINGTON,
President.

J. H. NELLIS, Secretary.

☞ "Novice" writes us that he has enlarged *Gleanings*, and that the price will be hereafter increased to $1.00, including "Our Homes." We shall still club it with THE AMERICAN BEE JOURNAL at $2.50.

☞ A. H. Hart, Appleton, Wis., writes us that he is giving Lectures on the Honey-Bee this winter. Those wishing his services can write him as above.

Correspondence.

For the American Bee Journal.

Honey-Producing Plants.

As we are constantly receiving letters from various sections of the country asking our opinion of the comparative merits of the different honey-producing plants; their value as a field crop, best mode of culture, etc., we desire to answer such questions as may be of interest to the general reader through the columns of THE AMERICAN BEE JOURNAL.

We will first mention those which are a valuable crop, aside from the honey which they produce:

Buckwheat (*polygonum fagopyrum*) succeeds best on a dry, rich, sandy loam; it is a valuable crop for family use, farm stock, poultry, etc., and will rapidly enrich the soil, if deeply plowed under while in full bloom. Its yield of honey while in bloom, which is of quite short duration, in a favorable season, compares well with any plant with which we are acquainted, but it is of very inferior quality both in taste and color. The seed should be sown in June, broadcast, using 3 to 5 pecks per acre.

The *pure* silver hull buckwheat is a very productive and quite early sort; but we have not tested it sufficiently to justify us in speaking of its honey-producing qualities.

Chinese mustard (*Sinapsis Chinensis*) is about as well adapted to the wants of the bee-keeping farmer as any plant can well be. It is well adapted to most soils, and does not seem to be affected by atmospheric changes. Prof. J. P. Kirtland says of it in "Gleanings" (Vol. III., page 18): "In my belief the true Chinese mustard holds out the best prospects for this purpose (profitable cultivation, C. F. S.) of any plant at present known. * * * It produces more than double the quantity of flowers and seed than either the black or white mustard; the species usually cultivated in this State, the last named is too frequently sent out from our seed stores as the Chinese. If patches of ground be sown at suitable intervals of time from early spring till near the close of summer, our bees will be constantly occupied in collecting honey during those periods when they are usually idle for the want of such supplies as will be thus furnished. The seed of this kind is peculiarly adapted for grinding into the popular condiment, always commands a ready sale and good price, and will insure sufficient income to repay for its cultivation."

It is highly prized, when young, as a salad, or as greens; the seed is also eaten by poultry. The honey which it produces is of a very beautiful light yellow color, is of fine flavor, and always commands the highest market price. It may be sown *very* early in the spring in *shallow drills* wide enough for the cultivator, using six to ten pounds per acre; or broadcast, using 15 to 25 lbs. per acre. For seed it should not be sown later than the 1st of July. When ripe it does not shell out by the wind, and may be harvested at leisure.

Common mustard (*Sinapis Nigra*), is a valuable bee-plant, cultivated to some extent for its seed; but it is a bad weed.

Rape (*Brassica Napus Oleifera*. Fr. *Colza*. Ger. *Raps*) is an important plant both as a bee-plant and field crop; and is so well known that no description from us is needed.

Sunflower (*Helianthus*) has deservedly received much attention during the past few years, for indeed it is as useful a crop as a farmer can raise; the leaves producing an enormous quantity of nutritious forage for stock; and the seeds are eagerly devoured by all kinds of poultry, hogs, etc. They also have a real commercial value, being used in the manufacture of vegetable oil. It yields a large amount of beautiful yellow honey.

Alsike clover (*Trifolium hybridum*) and white clover (*T. repens*) have each been so often described, that we will not occupy your valuable space to reiterate what is already well known.

Lucerne or French clover (*Medicago saliva*) is one of the best kinds for sandy soil —it is notable for its long tap roots, which penetrate the soil to a great depth, rendering it capable of withstanding a severe drought, and causing a prodigous growth of fine food for stock, and it is one of the most productive forage plants that can be grown on the above kind of soil, and it is suitable for soiling. Sow seed in the spring using about 8 lbs. per acre. As a bee-plant it is nearly equal to Alsike clover.

Italian or scarlet treefoil (*T. incarnatum*) introduced from Italy, where it is extensively grown; also in France it is a profitable crop. Its flowers are produced in long heads of bright scarlet and are sought for by the bees from morning until nighi. We recommend this variety for trial to our brother bee-keepers. For a crop it should be sown the same as Alsike clover, for soiling during summer; using from 6 to 10 lbs. per acre.

Yellow treefoil clover (*Medicago Lupulina*) is very prolific and perfectly hardy; it grows very rank and produces honey during our severest droughts. Sow in spring 7 lbs. per acre.

Esparcette or sainfoin (*Hedysarum Onobrychis*). This plant is an acquisition alike to the stock raiser and bee-keeper, and though usually classed with the clovers, it is a leguminous plant. Its roots, which

are large, hard and woody, remain in full vigor for a great number of years, thus producing annually an enormous quantity of fine honey and forage. It is particularly recommended for feeding milch cows, sheep, etc.

Vetches or tares (*Vicia Saliva*). This species of the pea is grown extensively in Canada and England, where it is highly prized for green fodder, soiling, pasturage or as hay; being relished by all kinds of domestic stock. Its flowers are beautifully variegated, and are a favorite resort for the busy little bees. Sow broadcast in the spring, using about one bushel of seed for an acre of ground, or it may be sown in drills the same as field peas.

Borage (*Borago Officinalis*, Ger. *Surkenkraut*) though it may not be fully entitled to be cultivated as a field crop alone, yet it certainly deserves a place in every garden. In Europe, it is considered a valuable vegetable, and is to be found in almost every garden. The value of borage is thus spoken of in the *English Mechanic*: "The large leaves and tender stalks dipped in butter and fried make an excellent and savory dish. The brilliant blue flowers are very pretty as a garnish for salads. * * The young leaves boiled are a good substitute for spinach; or if dressed with hot butter and grated cheese an excellent and new vegetable. The plant contains a certain amount of saltpetre, as may be proved by burning a dried leaf. For this reason it is used with great benefit, for the relief of sore throat. The root is rich in gum, and if boiled yields a mucilagenous emulsion excellent for irritations of the throat and chest. Very violent attacks of toothache, where the nerve has taken cold, are often cured by holding a portion of the leaves, previously boiled in milk and applied warm in the mouth against the affected tooth. Lastly, bees are extremely fond of borage and it appears to repay them well for their attention."

Mignonette, Parsons' new white (*Reseda Odorata Eximia*). Too much cannot well be said of the value of this beautiful plant to those who are raising but a few stocks of bees. Kidder speaks thus of the value of mignonette in his "Secrets of Bee-keeping," page 59: "If cultivated to that extent that it might or ought to be, would certainly furnish a rich pasturage for bees; it blooms from June until the autumnal frost. A small patch of this will perfume the air for quite a distance; and were it cultivated by acres, for bee pasturage alone, we should be favored with a fragrant atmosphere that would vie with the spicy breezes of Ceylon, and a honey that would outdo the famed honey of Hymettus for aromatic flavor."

It blossoms *in* the latter part of June and continues in bloom until cold weather (heavy frosts do not injure it), and indeed we are informed by our Southern friends that with them it continues in full bloom during the winter. There are many other new varieties, but we think they are inferior for field culture, as is also the common dwarf sort (*Reseda Odorata*). The seeds, which are very small, should be sown in the spring; sowing thinly and covering lightly, in drills at least three feet apart.

Alyssum or rock madwort (*steinkraut*) is of but little value, except as *early* bee pasturage. The dandelion furnishes a rich pasturage for bees very early in the spring; scatter the seed in your pastures; it will do no harm, as all kinds of domestic stock will eat it, and in a year or two you will have a rich feast for your bees.

Yellow and white Bokhara clover (*Melilotus lencantha and M. albus altisonus*) are most excellent honey-producing plants, but they are a great nuisance to growing crops, and should not be allowed to spread too much where they are not desired. However, they are well adapted for sowing on barren hills, steep hillsides and broken ground generally, where it is not desirable for cultivating grain.

Catnip (*Nepeta Cataria*) and motherwort (*Leonurus Cardicia*). Bee-keepers should not cut down nor destroy these plants, but increase their number, as being the very best honey-producing plants that can be grown. It will pay well, where land is not too high, to grow acres of these plants. They are both biennials, but if sowed early and well cultivated, they will bloom quite freely the first summer. The honey which they produce always commands the highest price in either country or city. The seed can be sown in a seed bed, and the plants transplanted during the first summer into drills, or they may be sowed broadcast or in drills where they are to remain; but the rank weeds must be kept down. It is a good plan to scatter the seed in stone piles along fences and other waste places about the farm; it is not a bad weed.

Monarda punctata is valuable for bees, but it is difficult to grow it except on sandy or gravelly land.

Partridge pea and Rocky Mountain bee-plant, we have not tested sufficiently to recommend.

Basswood or linden (*Tilia Americana*) and tulip, whitewood or poplar (*Liriodendron Tulipifera*) are worthy alone for cultivation, either for their timber or as an ornamental shade tree. They are rapid and thrifty growers, easily transplanted, and will live for hundreds of years, and are the most *valuable* monument that a man can build for future generations. Were our public roads, parks, dwellings, etc., planted with these trees, what a boon it would be to all engaged in this interesting pursuit. A good way to introduce them in a neighborhood is to furnish

your neighbors the desired quantity on condition that if they grow them successfully they have them free; but if they neglect them and let them die, they to pay you cost price. The seeds are to be sown in drills, and cultivated one year, then transplanted, setting from 8 to 14 feet apart each way. The seed will also grow if strewn among timber, along fences, etc.

The Wild China is also a good honey-yielding tree, nearly or quite equal to the above; but we do not think it will stand our severe winters.

We will answer questions concerning plants in the best way we can, if correspondents will remember to enclose the necessary postage.

We are aware that some of the above remarks are at variance with the opinion of some of our brother bee-keepers, but they will please remember that the atmosphere and climate at times change even our most reliable honey-producing plants and trees. C. F. LANE.

Koshkonong, Wis.

For the American Bee Journal.

What is the Cause of it?

Mr. NEWMAN: After traveling for two years and visiting many experienced and professional bee-keepers, and listened to their reports in reference to their success, I have come to the conclusion that there is much yet to be learned before bee-keeping will be made a success. A majority give an unfavorable report, saying, "My bees are not doing as well as they did some four years past."

That being true there must be something wrong. The question arises: What has been the cause of such a general failure? Have the bees lost their instinct? Have they been indolent and lazy? Have they lost their desire to propagate their young and to lay up stores for future use? Has nature failed to supply the blossoms with nectar? Certainly not! There may be a difference in the seasons, but not so great as to make a failure, if properly cared for. It cannot be supposed that such a change has been brought about. The many different hives that have been made; the new theories that have been introduced, and the management they have received, do not give much credit in favor of improvement. The convenience of the hive and the manner they are attended has much to do with their success. The lack of knowledge, the management and the many humbugs put on the people here caused them to become disgusted and discouraged.

Many hives, got up by inexperienced bee-keepers, are no more fit for bees than for a hog trough, and all you can say about them is that they are different from some other hive. I have examined a great variety; some have real merit, while many others are entirely worthless, except for hens to nest in, or for store boxes. The majority of hives are so constructed that it is impossible to discover any superior advantages.

A bee-hive should be constructed so as to cover all the wants and necessities of the honey-bee, and also be convenient to handle; fully adapted to their nature and habits. Such a hive cannot be got up without a thorough knowledge of everything that appertains to the honey-bee. There are so many things to be brought entirely under the control of the keepers, that it requires much thought and long experience to be able to consolidate and construct into one hive or bee-house the convenience and advantages necessary to make bee-keeping scientific and practicable. A scientific bee-hive alone will not insure success. But knowledge, with good judgment and common sense, and the right management, will do so in due time. When these qualifications are all combined, then we may look for improvement in bee culture. It is not a haphazard business. No business requires more perfect management than bee-keeping. *Lucky* bee-keeping will soon pass away, and those who keep bees will discard all such bigoted notions (still in existence), that if a colony lose their queen you must hang a "fippenny bit" or a dead queen in the top of the hive to cause them to choose another; that when you sell bees you must not take money, but a sheep; that when a member of the family die, you must go, and rap on the hive, and say to them, some one is dead, or they will die out; that you must clean out the hive on the 22d day of February to prevent the moth from entering; to move them on the 16th day of March one inch to have good luck; that you must not sell your bees, but a neighbor may come and steal them; that you must tap on the outside and whistle, to call them in when they swarm; that you must ring bells and rap on tin pans to prevent them from going away.

Many of these hobgoblin yarns are still in vogue and must be discarded; knowledge must take the place of ignorance, and every farmer should inform himself as much in reference to bee-keeping as agriculture or stock-raising. A few colonies of bees will always pay good profits on any farm. They, like other creatures, need care and attention; were created for man's benefit, and are deserving protection. They are a self-supporting community, and yield more profit than any creature kept on the farm. They not only feed and support themselves, but with good management will assist to furnish the poor man's table, and help to clothe his children and build him a comfortable home. They require good management and a house adapted to their necessities. They are creatures of habit, and every-

thing connected with their surroundings should be in accordance with their nature and instinct; they should be protected from the heat in the summer and cold in the winter; an even temperature should be kept as much as possible, that they may be at all times in a prosperous condition.

Bees should never be divided or allowed to swarm, so as to reduce the animal heat or weaken materially their working capacity during the honey harvest. The hive should be so constructed that the new colonies will be composed of young bees, too young to go to the field to labor, and if placed in proper condition with necessary material, will rear themselves a young queen, that will be matured and prepared to deposit eggs as soon as they are needed in the new colony. Dividing and swarming, as now conducted, is the cause of more loss than the cold winters. Making two poor swarms out of one good one is not judicious management. In your next number I will explain how I manage my bees. EDGAR.

For the American Bee Journal.

House Apiary.

The article entitled "The Apiary House Question," on page 12, last month's JOURNAL—if it means anything—is intended to convey the impression that "Novice" is in no way indebted to me for any knowledge he has of the House Apiary method of bee culture. Those who have read the AMERICAN BEE JOURNAL and "*Gleanings*" the past six months—particularly what has been said by "Novice" in "*Gleanings*," could not have failed to receive the impression that he wishes it to be understood that the system owes its origin and development thus far to himself.

Indeed, I am credibly informed that one of our most prominent bee-keepers, a man who has an utter disgust for anything mean, having a knowledge of the facts in the case, advised "Novice" as a friend to abandon his unwarranted pretensions, and give honor to whom honor is due. Previous to the appearance of my article in the AMERICAN BEE JOURNAL of May last—written in haste from Toledo, Ohio, and published by you without my solicitation—the House Apiary question had not been generally discussed, and very little was known regarding it.

In 1866, having then kept bees for many years and having learned, by experience, the precarious nature of the business as usually carried on, I was led to seek for "some better way," and after giving the matter a good deal of careful thought, I drew my first plan of a House Apiary—which was octagon. After changing and modifying my plans many times, and after innumerable experiments, I submitted the matter to Doctor Kirtland, of Cleveland, Ohio, whom I knew to be a thoroughly practical and scientific bee-keeper. The Dr. was rather favorably impressed with the system and advised me to get it patented. But wishing to test it still further and make any necessary modification in the plans, I filed a caveat in the Patent Office in order to secure the matter. This was in 1869 and I did not procure letters patent till January, 1875. Then wishing to have the system thoroughly tested by disinterested persons, before offering it for sale, I made arrangements to erect "trial Apiaries" in different parts of the country; particularly desiring to have it tested by the Agricultural Colleges of the various States.

In carrying out this plan, I built one last April in Wooster, Ohio, and that place being near Medina, the residence of "Novice," I wrote him enclosing a description of my apiary and invited him to come over and examine it, and if favorably impressed, make some arrangement to give it a practical test. "Novice" being the publisher of a bee paper and withal, a champion humbug extinguisher, I very naturally concluded that he would give the thing a pretty severe test, and that the interests of bee-keepers would be quite safe in his hands. His answer, which is copied below, shows very clearly I think, that up to that time at least, he had no well-defined notions of a House Apiary.

COPY OF MR. ROOT'S LETTER.

"MEDINA, OHIO, April 30, 1875.

I have read and re-read paper sent, and would be very glad indeed, to think it even possible that bees could be kept in such a house as you allude to. I have been experimenting considerably in that same direction and am driven to one of two conclusions, *viz.*: that you have not tested the plan fully or that you are willfully misrepresenting, and that my time and money would be lost in making the trip. However, I am open to conviction. If you can come and see me or pay the expense of such a trip, I will carefully examine the matter. You know best what you can afford.

Signed, A. I. ROOT."

In the course of three weeks I visited Mr. Root, taking a model of the Apiary with me, and explained the whole matter to him, as minutely as possible. But as a House Apiary is one of those things which cannot be fully understood or appreciated without seeing it in operation, I renewed my invitation to him to visit the house at Wooster, which he accepted and came over the following week. He seemed quite charmed with the House, calling it a "perfect gem"; said it was far ahead of what he expected, even after he had examined the model and had my description of it, and that the system was an entirely novel one to him.

In Gleanings for last month, page 7, "Novice" says "he is not able to discover anything in Coe's House Apiary that has not been in use." Now, I am heartily sorry that he said so; not that it will injure me in the least, but for his sake.

It may oblige me to be personal. For the present, however, I will only suggest that he takes for his next month's Scripture text: Matt. VII: 12—"Therefore, all things whatsoever ye would that men should do to you, do ye even so to them." He also says, same page: "In the AMERICAN BEE JOURNAL, for Nov., M. J. Stibbs makes quite an error when she states that we received the necessary instructions for building our house apiary of Mr. Coe—*her brother*. Mr. Coe gave us no instructions, but on the contrary, ridiculed our idea of two-inch auger holes and dispensing with ventilators; our building was made for another purpose years ago, as our readers are aware, and there can be no possible need of buying a patent to build such a one as ours." We give this as a *companion piece* to "Novice's" letter of April 30, 1875, copied above. They belong together—one serves to explain the other.

It may be necessary to refer to this matter at some future time.

If the "House Apiary" proves to be a blessing to the world, I have my reward. If it results in a failure, no one but myself will lose a farthing by it.

J. S. COE.

Montclair, N. J., Jan. 15, 1876.

"Scientific" Talks to Farmers.

Our friend, "SCIENTIFIC," talks to the farmers of New York in the Washington County *Post*, as follows, on the subject of "What Shall we Farmers do Next?"

For several years we have been engaged in a specialty in connection with farming, that we find both pleasant and profitable. In comparison with the more extensive fields of labor, in which the great mass of our agriculturists are employed, we would hold up the art of bee culture and the production of honey as second to none in point of profit, for the capital invested.

We do not expect every one will choose this pursuit, for this species of stock is possessed of many sharp points of character, intensely disagreeable to sensitive persons; but to those who can listen to their quiet music without plunging head first into the nearest brush heap, we would advance a few facts for consideration.

If we invest five dollars for a swarms of bees they should produce at the lowest estimate twenty pounds of box-honey, which is, at the usual rate of twenty-five cents per pound—$5. We have here doubled upon the capital invested, and not counted upon the increase of a young swarm worth another $5. These results can be accomplished with the old-fashioned box hive which our grandfathers used. But we find that bee keeping, like all other pursuits, has kept pace in improvements with all the other industries of the age. Instead of the old box hive we now have the movable comb bee hive which admits of the examination of every comb in the hive, the queen bee can be removed and replaced by another, or young queens can be reared at pleasure—in fact, we have complete control of the interior workings of the hive. We also have the honey-emptying machine with which any comb in the hive can be filled with honey, and be removed, and the honey thrown out without injury to the comb, the comb to be re-filled by the bees. This process can be followed as long as the honey season lasts.

Instead of allowing our new swarms to come off and fly away to the woods, we now make swarms when we get ready, and have our queen nurseries in which our young queens are hatched and given swarms as needed. Our stock has also been improved by the importation of Italian bees from Italy, and our queen breeders send these royal insects in small wire cages to all parts of the country. It will therefore be observed that in starting in this business a small or large amount of capital can be employed. An apiary with all the modern improvements would cost several hundred or thousand dollars, according to the number of swarms, and the income accordingly great. We now have frequent instances of whole apiaries of a hundred swarms yielding one hundred pounds of box honey per hive, or two and three hundred pounds to the hive when the honey emptying machine is used.

Should we desire to make our profits from the sale of colonies, the method of making artificial swarms presents a rapid means of increase. Ten or more swarms can be made from one in a single season, but no surplus honey will be obtained.

We do not make these statements in relation to bee-keeping in order to excite expectations of large gains and rich rewards to every one who takes up this fascinating pursuit, for there are many discouragements in this business, and quite as many foes to contend with as in any other occupation; but to persons who desire to study the peculiar habits of one of the most interesting and industrious insects by which man is surrounded, this branch of human industry presents not only a pleasant but profitable field of research. While there are but few who are naturally adapted to make this pursuit their exclusive occupation, there are but few who could not keep a few swarms to supply their table with a healthful luxury, and, perhaps, find it also a profitable adjunct to their other business.

At this time, when we hear so much about women's rights and new fields of

labor for women, here is an occupation admirably adapted to the strength and acute intelligence of the female sex; and there are many in various portions of our land who are making large incomes from this source alone, and we are confident that there are also ladies in Washington county possessing the proper qualities to become adepts in this pursuit.

Many are deterred from keeping bees from the fact that within the past few years our unusually long and severe winters have become the greatest foe to the apiarian. Whole districts where swarms were formerly kept have become almost depopulated, and now but few bee hives are seen in a day's ride through the country. It has been found, however, that this kind of stock requires to be protected from the inclemencies of the winter as well as our cattle and sheep, by keeping them in a dark, frost-proof repository, and at an equal temperature they winter with as little loss as any other class of domestic animals.

Others decline to have anything to do with bees, owing to the sharp points they carry in the end of their tails. The propensity to use this sharp point can be in a measure overcome by the use of a little smoke; but suppose we get stung occasionally—it is a sovereign remedy for the rheumatism. Therefore let no one become discouraged on this account.

Before closing, I would say that our agricultural society could do much towards developing this industry. Like many other things, it suffers from neglect at their hands, while it is worthy of a more prominent position upon their premium lists. SCIENTIFIC.

For the American Bee Journal.

Maury County (Tenn.) Meeting.

The Maury County (Tenn.) Bee-Keeper's Society, held their regular meeting in the Circuit Court room, Columbia, Tenn., on Saturday, Jan. 1, 1876. There was a full attendance.

The minutes of the last meeting were read and adopted.

Mr. J. J. Jones moved that the Secretary be authorized to receive members at any time—adopted.

Mr. David Staples, being called upon, addressed the Society about as follows:

MR. PRESIDENT AND GENTLEMEN:—I feel highly complimented on being called upon to address you on this occasion, upon the history and habits of the Honey Bee. But knowing my inability, it is not strange, nor unnatural that I should feel a degree of embarrassment. But as the vast ocean on whose bosom floats the mighty ships of commerce, is made of little drops of water; and this earth on which we tread, is composed of little grains of sand, it may not be amiss in me to cast my little drop into the ocean of science, that is now sweeping across our pleasant land.

A retrospect of the past is noble, and well becomes an enlightened mind. It is not necessary that all communications with our fellow beings, shall be cut off, because they first succeeded to this hereditary globe, and first mingled with its silent dust. In reviewing the past thick-coming fancies, and stern realities, strangely mingled, crowd upon our minds.

One moment, we wander among the crumbling epitome of ancient mythology, where we see that the Honey Bee has been the friend and companion of the white man, ever since the most remote ages in history. (I say white man, for there is a tradition among the Indians of the present day.) Whenever they see the Honey Bee among them, it is an omen that the white man is on the trail. I need not trace the chronicles, and show you how she sought the hollows of the trees, the clefts in the rocks, and the carcass of the dead lion, wherein she could bestow her loads of sacred sweets, in order that she might have not only a sufficiency for herself and young, but also an occasional treat for her friend. Let us pass by the inhumane ordeal, when lo, we behold him in the darkness of night with the brimstone match in his hand, in cold blood and unprovoked murder, and rob the little innocent, who feign would have toiled her life away for his good; had it not been for such base inhumanity.

These we did hope might not directly concern us or our countrymen. But no sooner do we tread on America's soil, no sooner see her Langstroth with his movable comb hive, than we are personally interested in its history, and commence a scientific course in apiculture. Far off on the shores of Geneva, in the year seventeen hundred and ninety-five was seen a Huber (having no doubt solved the riddle, wherein from the strong came forth sweetness.) Observing with what accuracy the little insect followed the ribs in the carcass of the dead lion, he conceived the idea of placing a bar across his hive, that he might secure straight combs, and in whatever direction he pleased.

After having lain dormont for more than a half a century, those ideas were aroused and wafted across the mountainous waves of the Atlantic, and were caught up by a Langstroth about the year eighteen hundred and fifty-one, which was the first permanent step in apiculture in America. This was the land of the log gum, and the brimstone match: and perchance one half century ago, the rude gum stood on the very ground, where these walls are now erected. The brimstone match was lighted,

and the foul murder and base robbery were committed where this candid audience is now seated. I have said the idea came, and need I tell the result. The log gum was driven from its place in the grove, was expelled from its corner in the yard, was banished from its nook in the garden; and ere long, the little relic of barbarism will be known only as among the things that were.

Having attained the perfect control of the hive, and by the importation of the Italian bee, (whose superiorty has long since been decided,) it became necessary to give the queen more room at certain seasons, wherein she could deposit her eggs. Hence sprang up (as by magic) the mel-a-pult, the honey slinger, the extractor and a vast vocabulary of names, signifying a little machine with which we are enabled to remove the honey from the combs, and return them uninjured to the hive to be refilled by the bees; thus saving much honey and labor in building new combs.

In order to attain the greatest success in apiculture, it is necessary that we should have a large supply of workers on hand to gather the harvest when it comes. (Me-thinks I hear some one say, I thought bees made honey, and why cannot they make it at one time as well as another.) No sir, bees do not make honey; but nature secretes it in the nectaries of the flowers, and bees gather it, and store it in the combs which they have made.

The honey crop in this country is sometimes cut short by excessive wet or excessive dry weather. Therefore the necessity of having a strong band of workers on hand, that they may wade in at its early appearance and take of the first fruits of the land, and should the harvest linger, you need not fear that the laborers will tire, for when there is work to do, the little busy bee is always ready.

I might go on and describe to you the different kinds of bees, such as the common black bee, the grey bee of the South, the German bee, the Italian or Liguarian bee, the Cyprian bee, the Egyptian and the Stingless bee of South America, also the various manipulations of the apiary; such as rearing queens and bees, removing honey from the combs, and placing them back in the hive to be filled again, etc. But I fear it would be monotonous, and intrude upon your time. But if any of you are sufficiently interested to come to my apiary at any time, I will show you with pleasure, what little I have learned concerning this bountiful gift of nature bestown upon us by the Great Giver of all good.

It seems like I hear some one say, "does this bee business pay?" In answer, I would say it is not unlike many other rural pursuits. Who among you would buy a fine flock of Cotswold sheep, a herd of Ayshire cows, or a good stock of Berkshire pigs, and turn them on the commons, with no care, and expect a large profit? In the same way if he buys a full colony of Italian bees, and puts them in a log-gum to take care of themselves, he may have all the profits, I do not wish to share them with him. We however have statistics from not only this State, but also from almost every State in the Union; where with proper management, it pays from 100 to 300 per cent. on the capital invested. Not only so, it is a business in which ladies can engage as well as men, and I believe some of the most successful apiarists in the United States are ladies. And I would that more of the ladies in this country, who are left with small fortunes, and can hardly keep the wolf from the door, could be induced to turn their attention to the scientific keeping of a few colonies of bees.

In conclusion, let me say in the language of an eminent writer, I would not for one moment encourage any one to engage in this enterprise, without first having a taste for this rural branch. Could you see in this field of labor, a beauty, a grandeur that would give you pleasure to follow, then I would say to you as a friend, that you can make it one of the most successful occupations of the day, and would warrant you a successful future. To do this, the novice must understand to be successful he must know how to get good strong stocks, and learn how to keep them so. Concerning this rural branch, we can safely say that in no other part of the world has apiculture made greater advances, than in America. The prosperity of the apicultural community has been unparalleled.

In the apicultural pursuits of this country, there is ample room for all. There is no need for jealousy. Yet we are sorry to say that selfishness has been the motto of some. The more enlightened we become as honest men in apiculture, the more we rejoice to see all indications of improvement advance.

There may be a few Judases in our camp, but we speak as a whole, each endeavors to stimulate his brother apiarists by his own success. By this means, there is generally among them a fraternal feeling. There is a great pleasure in this —one that we need feel proud of. It produces in social life a feature so lovely, so elevating that it opens a way by which we may be better prepared to understand the beauties of nature. Much of the progress which has been attained in our country, is the result of individual enterprise. It has, however, been aided by the press, today, we are marching on to victory. Our course has been one of onward movements, although there has been a neglect in this country to cultivate a taste for apiculture, from the fact that the whole subject has been generally viewed with in-

difference, and in some places we are sorry to say treated with disdain. Yet, let every adept in the science teach the right, the true, the practiful method of successful bee-keeping, and ignorance, and superstition will be driven from the land. And then in connection with the rearing of cows, sheep, pigs and other agricultural pursuits, for which this country is so beautifully adapted, we may expect the good promise given to our forefathers of old, truly verified: "Thou shalt inherit a land flowing with milk and honey."

The question set for discussion, viz.: Mode, objects and results of feeding, and queen rearing was then taken up.

Mr. S. D. McLean said there were various methods of feeding, and two kinds of food, viz.: liquid and pollen food. Bees when rearing young required a great deal of pollen and honey. Some fed them sweet liquids by suspending it in the hive, or placing it out in the open air. The best plan, he thought, was to feed in the hive, regarded unbolted rye meal the best food for pollen. The object of feeding is to stimulate the queens, and make strong colonies, thereby securing plenty of combs and honey. His mode of feeding was by inverting a vessel on a plate, and setting it on top of the frames, allowing it to run out in just sufficient quantity for the bees to get around, and take it up. The result of feeding, he found to be very beneficial. When bees were gathering honey the queen would be found to be laying. It should be kept up when commenced, for if the supply was cut off the brood would die. Had noticed in the last few days that his bees entered his kitchen for meal. Advised that bees be fed now, thought about the first of February, the best time to feed. On examining his hives found that his queens were laying now.

J. J. JONES.—Will Mr. McLean please state why he considers rye meal the best food for pollen?

S. D. MCLEAN.—Because they partake of it more readily, and it nearer resembles pollen.

J. J. JONES.—My bees have been feeding on corn meal, and it has kept them out of mischief; did not know why rye meal was the best; have never heard or read of any reason being given. He thought it probable that it was recommended because in some sections it was more convenient and cheaper.

DR. STAPLES.—I think Mr. McLean is correct. If the matter of feeding be tested, thought it would be found that those that were fed would be found much more active during the honey season. There were many things in nature we could not explain. He had observed his bees working in sawdust. The reason they preferred rye meal, he supposed, was because they knew what was best for them.

S. D. MCLEAN.—Put rye and corn meal both out, side by side and they would take, the rye, and leave the corn meal.

C. C VAUGHN.—Had put them both out together. Thought they took most readily of the one they first lit upon.

MR. CASKEY.—Thought if they took anything more readily or better than corn meal, it would be an injury. Supposed they took the rye in preference, because it was much richer. He proportioned his liquid food of one part water to three of sugar. This he poured into an empty rack of comb. Regarded comb as the best feeder. One rack of comb, filled, was sufficient to feed a large colony of bees. By this mode of feeding there was no danger of having bees drowned. His experience was that those which had been fed are more active, and go earlier and more readily to work.

Mr. STAPLES asked Mr. Caskey why he fed his bees at all.

Mr. CASKEY.—That they may nourish their brood. The feeding of syrup stimulates the queen to laying, and unless fed, the brood would die. Also fed at other times to keep his bees from starving. He objected to feeding strong colonies, for the purpose of stimulating them, until February.

Mr. JONES thought Mr. Caskey's mode of feeding objectionable, as it would induce robbery. His mode was to construct a feeder of canvass in a frame, of his hive, into which he poured his syrup.

Mr. MCLEAN.—If bees had plenty of uncapped honey he did not think it worth while to feed them. It would be found that the queens of weak colonies would be the last to commence laying.

Mr. JONES.—It matters not if the hives are full of honey, if the crop is suddenly cut short, the queen will stop laying.

Mr. MCLEAN.—Queens are laying now, and there is nothing for them to gather at this time.

Mr. CASKEY.—Weak colonies will not have as many eggs as strong ones, because they havn't the bees to take care of the brood.

Mr. JONES.—I have never made a practical test of the matter, but I think if two hives were experimented with, by extracting all the honey from one, and leaving the other as it is, and the honey gradually fed back to the one from which it was extracted, that they would prove during the honey-harvest to be the best workers. His bees were gathering honey now—thought it probable that it was by robbery.

Dr. BOYD thought that feeding required a great deal of judgment. Some queens were good layers, being better than others, and always had in their hives an abundance of honey. The best laying queens he regarded as dangerous, and it was necessary that they be closely watched. Did not

think there was any great difference in any of the meals, as they all contained a great deal of nutrition. They did not contain any saccharine matter, but did contain starch and gluten.

Mr. STAPLES read extracts from a manuscript which he had prepared on feeding; at the conclusion of which he stated that it might be found in full in the bee journals.

Mr. JONES.—Last spring, a year ago, moved his apiary to a new place in cold weather. Soon after it turned warm, and the bees came out, and seemed lost. Many of them entered other hives, one in particular, which caused it to be very full of bees. When the blooms put forth, and the season came for honey, he found this strong colony gathered a great deal more than any of the others. Yet they had had no feeding. The stronger the colonies the more they would gather.

Mr. STAPLES said that when feeding was commenced, it should be done regularly, and kept up until the honey season opens, but would not commence until it was approaching near enough to the honey season to keep it up, as they would start too much brood, and, by dropping it off, it would be destroyed.

The members of the society were invited to the apiary of Staples and Andrews, which was accepted, and afterwards reconsidered and postponed until the regular meeting in April.

WM. J. ANDREWS offered the following as a substitute for Article 3d of the Constitution:

"That any person can become a member of this society by a vote of two-thirds of the members present, and paying a fee of fifty cents, and signing the Constitution." The amendment was adopted.

Dr. BOYD offered the following resolution, which was adopted:

RESOLVED—That the Executive Committee inquire into the propriety of employing some one to sell the crop of honey raised by the members of this society, and report upon what terms it can be done at the next meeting.

Dr. BOYD moved that the Secretary ascertain of the members of this society the number and kind of hives they have on hand. Motion adopted.

Mr. VAUGHN moved that the Executive Committee be instructed to ascertain the best shape to have honey in, for market. Adopted.

The Secretary stated that he had been requested to have the rearing of poultry connected with the society.

Mr. STAPLES moved that we unite with the chicken men.

Mr. EVANS would favor the motion if it was so amended as to give bee questions the precedent, and added that he was very fond of *chicken meat*, but when it came to the table, could not tell the best blood from the common Dunghill. (Mr. E. is a preacher.) The motion was rejected, as it was thought it would occupy too much of the time of the society.

The Secretary moved that the question of "Queen Rearing" be postponed until the next regular meeting, and be the question for that meeting. Adopted.

The Secretary offered the following resolution, which was adopted:

RESOLVED—That the President appoint two members to write and read, at the next meeting, an essay on queen rearing and Italianizing.

The President appointed Mr. Jones and Mr. Vaughn. Mr. Jones declined, as he was not a queen breeder, and Mr. McLean, appointed in his stead.

The society then, by special request of a new beginner, briefly discussed the best hive to use, without arriving at any definite conclusion; all agreeing that it should be movable frame, containing above 2,000 cubic inches, be easily entered, and all be of one uniform pattern.

On motion, the society then adjourned to the first Saturday in April.

WM. J. ANDREWS,
Secretary and Treasurer.

Michigan Bee-Keepers' Association.

(Continued from page 25.)

JULIUS TOMLINSON read a paper on "The Diffusion of Apicultural Science." He advocated the idea of a friendly interchange of ideas and experiences, with a view to mutual benefit and the advancement of apistical science. The discussion of the subject was introduced by

Pres. BALCH—Heddon, that calls for you.

JAMES HEDDON—Mr. Tomlinson's paper contains many facts. The principles are good. Who can say aught against the glorious *principle* of communism? But such is not the system under which we live. All conventions in the different branches of business are held for the express purpose of furthering *their* interests. Why are we as *honey producers* so anxious to allure all classes of people into this "most fascinating (?) pursuit." Is it not a fact that many of us have failed to realize any profit in real production, and changing our tactics, *now* toot our horns to others about the wealth that lies beneath it, hoping to be able to furnish them with apiarian supplies? ("Send stamp for circular.") Who are the editors of our bee journals? Are they retired honey producers, and as such, capable of teaching us who are on *their* road to wealth? Or have they failed as producers and are *now* chiefly interested in hunting up those who are "in any way interested in Bees or Honey"? Does swelling the ranks of apiculturists, and the consequent increase of production, have a tendency to further

the interests of those who are already struggling in the business? And is it a blessing to the new recruits to be allured into as precarious and uncertain a pursuit as ours? Where are the fortunes that Langstroth and Quinby should have made, possessing the *best* ideas of to-day twenty years ago, with no bee-disease to annually decimate the ranks of "bee-dom"?

The interests of the publishers of the bee-journals are in direct antagonism to our own as honey producers, as is evidenced by Novice's refusal to publish my article which was only a fair and candid consideration of this subject, and written for the purpose of correcting a few of his mis-statements. I intended to have read said article here to-day, but inadvertently left it at home.

(The article Mr. Heddon alluded to is as follows.—*Sec.*)

THE OTHER SIDE OF BEE-CULTURE.

Friend Novice:—I was not a little surprised at finding my "refused" article had crept into *Gleanings* after all. If you take the privilege of copying my articles from other papers, and commenting upon them, you will no doubt allow me room in your columns for a candid honest reply. Please remember the shield that was red on one side and white on the other, and at least give us credit for honesty even if we do differ from you. Let us see if the article referred to is such an exaggeration or not.

Novice, you quote the price of good extracted honey at 16c. to 18c. and 20c. per pound. Why does one of our best posted apiarians peddle out 3,000 lbs. of extracted honey at $1 per gallon? The party I have in mind is a "travelling man" a part of the year and knows more about honey markets than the next one hundred bee-keepers you will meet. Why does Mr. C. O. Perrine reply to offers that he "does not want to buy honey at any price" because it is such a drug on the market, that there is not half the usual sale for it? If this is a "honey buyer's" dodge, why did this same "honey buyer" advertise *for* honey but a few years ago? What have we got to-day to warrant better success in the future than in the past? Hope? How much money or bees would any of us have if we had sold all of our honey in past years at the prices given by Mr. McMaster in "Honey Column" in your October No.? I infer from some of your past insinuations, that you class me with the "honey buyers." If so, what of my offer in "Honey Column" for October. If you don't believe me a "honey *seller*," just send me down an order for this small lot.

What a foolish man Adam Grimm must be to *sell* his bees, when these "swamps of Michigan" are open to him and he knows the bees *here* will pay all he asks for them in "just four months." Who hived the swarms from those bees that were "visited only once in one or two weeks?" My bees will sometimes swarm in less than "one or two" *days*. If bees and honey are worth *so much*, pray tell us why I cannot sell the bees and honey you have advertised for me. I never sold a pound of honey to any party who had ever heard of your "honey column."

"MORAL."

About fifteen years ago, near Vandalia, Mich., out of over five hundred colonies of bees that came out strong in the spring, forty-five out of every fifty starved during the *summer and fall*, and that too, in spite of feeding and keeping them alive for nearly sixty days in some cases. One careful apiarian fed until he could afford it no longer and then lost all but two out of about one hundred colonies.

The comb honey I offered in your "honey column" for October, is in these same "section frames" weighing about three pounds each, and why don't they "sell at sight"? The northern part of our State (Mich.) has yielded beyond a precedent the past season, and of course all eyes are turned toward that locality. Can't see New York *now*. People were looking *there* a year ago. To conclude, I will make this prediction, and time will show who is right, and who is wrong. In the future not much extracted honey will be taken, at least for eating purposes, I mean for table use. Comb honey in fancy shape will be the bulk of the production. The price will range from 15c. to 18c. per pound, *net*, for choice comb, and from 6c. to 8c. for extracted. Very little extracted honey will be produced when apiarians learn how to get just about as much surplus comb honey from their bees, as can be taken in liquid form, and also when they learn, that in an apiary properly arranged and manipulated there is no need of an extractor whatsoever; and that extracted honey *will not* sell to experienced purchasers unless capped over and well "ripened" before taken from the combs. The prices given above are subject to war, inflation and panics.

I have written the above in all candor and good feeling toward all my fellow bee-keepers and invite all criticisms of the same nature, and request that you, Mr. Editor, print or return this to me.

JAMES HEDDON.

Mr. Hiram Roop's reply in *Gleanings* stated that bee-keeping is *much more* profitable than farming, citing his own experience as "proof stronger than Holy Writ" in support of his assertion. But why don't Roop's farm pay? Because he neglects it in the care of bees. A farmer in my neighborhood is paying the principal and interest of a $6,000 mortgage on a farm whose area is only twenty acres in excess of Mr. Roop's. But he attends to his business.

Of course it will *never do* to dampen the ardor of the new converts, the bee-journals *must* have new subscribers, even if it be at the expense of candor, thereby working for their interest, instead of ours who support them. Apiculturists, like other business men, will only accumulate by strict economy, great energy and skill. Capital only will save those of us who are making the business a specialty. We must run larger apiaries and raise box honey, if we expect any profit. The raw, uncapped, slung honey that infests our markets, is not as toothsome as 80c. syrup. Theses views are the result of my experience and observation, but am at all times open to conviction.

In response to many inquiries from those present, the Secretary gave a detailed account of his method of securing box-honey, an epitome of which we subjoin, as follows:

I can see but one way to make bee-culture at all profitable, and that is to raise our surplus honey for market, in small glass boxes. It then, not only commands a ready sale, but a fair price also, which *cannot* be said of honey in any other shape. The boxes should have, at least, two glass sides, comb-guides, and abundance of room at bottom for ingress and egress of the bees. Get your bees strong in numbers by the time of the linden harvest, and then put on three boxes over centre of brood nest. When these are nearly full put on three more and keep adding until the set is complete. When the first three boxes are capped over, remove them, putting on empty boxes in the place of the full ones removed. Keep this up as long as the honey season lasts, and if the flow of nectar has been at all good, you will have no cause of complaint that bees will not store honey in glass boxes.

Dr. SOUTHARD—Would not small frames be preferable to boxes?

H. A. BURCH—Small frames possess no advantage whatever over the little boxes. Just as much honey can be procured in the boxes as in frames, while the boxes sell more readily at a better figure. Honey must be put up in fancy shape to sell at all well in the city markets in the future. It is also less work to manipulate boxes, but requires some skill to get the bees to fill them rapidly, as in fact is the case with any surplus receptacle.

Pres. BALCH—I understand you consider the extractor is an unnecessary adjunct of an apiary during the storing season, when run to box-honey. Please tell us how you keep the Italians from clogging up the brood chamber with honey.

H. A. BURCH—I do consider that extracting the brood combs during a honey harvest, is a most useless operation. As well might we call such an apiarian skillful as the general who had made no preparations for an attack until the enemy was upon him. To obviate all trouble in this respect, I want a queen of the capacity and disposition to lay 3,000 eggs per day during the entire working season in a hive of 1,400 cubic inches, so that she can deposit only 1,500 eggs as a daily average. The only time I would ever use the extractor would be to remove all over twenty pounds of honey that such hives might contain on the first day of May; then get your hive full of brood *before* the honey harvest comes and your queen will keep it so. In such hives thus manipulated, the bees will have abundance of brood below and will store the honey above in the little boxes.

As the time allotted to the afternoon session had expired the Convention adjourned until evening.

EVENING SESSION.

The Convention was called to order at 8 o'clock, President Balch in the chair. He expressed the opinion that it would be preferable to hold a short session, and devote the balance of the evening to social intercourse. The Secretary thought the social element of our gatherings should receive more attention, inasmuch as it was an essential feature—one that was more fully appreciated by those in attendance than any other. Our personal intercourse with each other will result in pleasant memories that will be cherished long after all else shall have been forgotten. After remarks from others, all concurring in the sentiments expressed above, President Balch's suggestion was concurred in.

JAMES HEDDON read Mr. Langstroth's patent claims, interspersing the reading with remarks to show that the admitted requisites of the best features of movable combs to-day are embodied in Mr. L.'s claims. The shallow frame and lateral movement of the same, slotted honey-board and air space between it and the top bar of the frames, and a small brood chamber, are all essential to an easy and rapid manipulation, and the best success in securing box-honey.

Dr. W. B. SOUTHARD—I understand that Mr. Stray has been experimenting largely during the past season with a view of securing all straight worker comb. Will he please give us the result?

GEO. STRAY—To secure all straight worker combs has been to me a long-sought desideratum; but not until the past season have I been entirely successful. My method for securing this most desirable result is as follows: Remove all the capped brood from the hive, leaving but two combs, which should contain eggs and larvæ. These are placed in the centre of the hive with an empty frame between them. As soon as this frame is

filled with comb, place it on the outside and insert another empty frame. Continue the operation until the hive is full of comb. By this plan combs are built very rapidly, the queen will fill them with eggs as fast as built, and you obviate the building of drone-comb. Swarms thus treated soon become as populous as they were before any brood was removed.

Pres. BALCH—What do you do with the removed brood and combs?

GEO. STRAY—Place them with a few adhering bees in an empty hive, give them a queen cell, and you have another swarm. Last winter I lost all but one of 73 colonies. Purchased 12 in the spring—had one stolen—so I commenced the season with 12 stocks, not in good condition. Have covered all my combs, had 272 combs built—all straight and no drone-comb—have now 112 stocks in splendid condition, and secured 400 lbs extracted honey. I attribute my success to my method of management. No other plan I have ever tested would have give such good results. I find that small hives, 1,200 to 1,500 cubic inches available comb space in the brood chamber, are much the most profitable.

Pres. BALCH—Stated that the Convention would proceed to the election of officers for the ensuing year, which resulted as follows:

President—Arad C. Balch, Kalamazoo.

Vice-President — James Heddon, Dowagiac.

Secretary — Herbert A. Burch, South Haven.

Treasurer—Julius Tomlinson, Allegan.

The first ballot for the office of President resulted in a tie between A. C. Balch and James Heddon. The remaining ballots were unanimous in favor of the persons elected to fill the several positions. The subject of adjournment was then considered. Considerable discussion ensued, a large majority expressing the belief that Kalamazoo was the most central point of the bee-keeping interest, and therefore the most eligible point for our conventions. It was finally agreed upon to hold a spring session in Kalamazoo on the first Wednesday of May, 1876. The Convention then adjourned until 9 o'clock A. M. to-morrow.

MORNING SESSION.

The Convention was called to order at 9½ o'clock, with a good attendance, President Balch in the chair. The programme of the morning session was immediately taken up, by the Secretary's reading of a paper on "Queen Rearing," from George Thompson, Geneva, Ill. The paper was a valuable one, portraying the necessity of more care and skill in breeding bees. The conditions necessary to a successful prosecution of the work were considered with the conclusion that we are entering upon a new era of progress in this department of bee management. A brief paper on the same subject was read by the Secretary, from James M. Marvin, St. Charles, Ill. Considerable discussion ensued, an epitome of which we give as follows:

JULIUS TOMLINSON—Mr. Thompson advances many good ideas, but does not go far enough. We should aim to breed up a profitable race of bees, a race at once prolific and industrious. Beauty is of secondary importance. We do not need to go to Italy for queens. Better queens have been reared in this country than were ever imported.

Dr. SOUTHARD—Mr. Marvin speaks of the size of bees. Does old comb effect their size?

J. H. EVERARD—I once transferred a swarm of bees from an old box-hive that had been continuously occupied for over 40 years. The combs were so thick and tough that a piece a foot square would bear my weight (160 lbs), but the bees were as large and as active as any, and such bees to winter I have never seen before nor since. I tried all sorts of experiments upon them, but they wouldn't die—always wintered well. You might drum upon the hive from January to June, but they wouldn't show a single sign of dysentery. The hive was finally burned accidentally.

JAMES HEDDON—'Twas time.

H. A. BURCH—Cremation.

JULIUS TOMLINSON—I find no perceptible difference in size of bees, whether bred in old or new comb.

Dr. SOUTHARD—I have brood combs that are 12 years old. The cells are smaller than the usual size and so are the bees

Pres. BALCH—While it is true that a hatching bee leaves a cocoon in the vacated cell, it is equally true that the bees gnaw them out, thereby preserving about the same relative size.

J. H. EVERARD—As the septum of the comb increases in thickness with age, the bees lengthen out the cells, thereby maintaining their uniform length.

Pres. BALCH—Bees will winter much better in old combs out of doors than in those more recently built. But we are wandering from the subject under discussion. Let's go back and canvass the queen topic.

JAMES HEDDON—Extra prolificness in the queen is not desirable. It is a universal law of nature that that which yields the most is of the poorest quality. The common grade cow that gives an enormous amount of milk, will not produce the quality nor quantity of butter that the little Jerseys do. Pomologists have discovered that thinning is indispensable to success in raising well developed fruit of the finest quality. So it is with bees. The strongest stocks with their extra prolific queens are by no means the most profitable. Quality,

and not quantity, of bees in a hive, is of paramount importance. The size of the hive has an important bearing on this subject. The "long idea" principle (my assistant termed it "*wrong* idea hive") of Gallup and Adair, is one of the worst of apistical delusions. Supposing that a good queen costs 25 cts. as a basis; a frame of worker comb is worth a dollar. The extra combs of a large hive are equivalent to another swarm, while a small swarm will yield much the better comparative results. The most profitable colonies I ever had were 8 frame hives, and small frames at that. This is not an isolated case in a single season but an apiary during a series of years. In the small hives, the queen will *crowd* the brood-combs and the bees *will* crowd the surplus boxes. Combs —not queens—are the basis of an apiary.

J. H. EVERARD—The trouble with friend Heddon is—he has never tried the "wrong idea hive" of Gallup and Adair.

JAMES HEDDON—I've got 32 of them at home that you can try for a quarter apiece.

Pres. BALCH—Unless we have prolific queens our success will be limited.

JAMES HEDDON—I have no objection to prolific queens whatever, but put the capacity of the hive below that of the queen and you'll push things.

Dr. SOUTHARD——Has any one using small hives ever experienced any difficulty in having extra prolific queens lay several eggs in a cell? I have often found 3 eggs in a single cell.

JAS. HEDDON—And so have I; but strange to say, never saw three bees hatch therefrom.

Pres. BALCH—If you had strong stocks would you divide them early, with a view of increasing your crop of surplus honey?

JAMES HEDDON—'Tis a fine point. Some seasons I would, others not. It all depends upon circumstances. Our seasons differ so widely that no rule can be given. When bees are strong and the honey harvest is good, they will swarm, if not divided, and thus materially lessen your amount of surplus.

Pres. BALCH—I want my queens so prolific and my stocks so strong in numbers, that they *will* swarm. Then I am sure of a goodly amount of surplus honey.

JAS. HEDDON—Are natural swarms superior to artificial ones?

Pres. BALCH—They are most decidedly so.

JAS. HEDDON—I want a queen that is prolific in proportion to the combs of a hive, and small hives will secure this. Swarms of equal strength will often present a vast difference of results. I want bees of quality—not quantity. A bee that is lightning on business is what we want.

JULIUS TOMLINSON—Please give us your plan for securing this result.

JAS. HEDDON—I have been very successful as my annual reports abundantly prove. My plan is to rear my queens from my choicest stock. By choice stock I do not mean those yellow bees that show the greatest number of rings, but the swarms that roll up the largest amount of surplus honey. The long-nosed breed of hogs that will root up the third row of potatoes through a crack in the fence will not fat; but the little chunked grass breed will do so readily. A bee that will secret wax quickly and build comb fast—which is equivalent to honey, and comb-honey in boxes represents money—is the bee for profit. I prefer the Italians for their longer life and greater peaceableness; but aim to breed the best strains of the two races.

J. H. EVERARD—When hives are crowded with brood and bees early in the season it is better to divide them, you will get more honey. Italian bees will fly farther and carry heavier loads; and should they "dwindle down" in spring, will recuperate where the blacks will not. I once had a swarm of Italians dwindle down to seven bees, and a queen that defended their hive against robbers for over 4 weeks.

Dr. SOUTHARD — That's the smallest swarm on record.

GEO. STRAY—Much of our success will depend on getting our swarms strong in numbers as early in the season as possible, to do this keep your hives adapted to the size of the colony, even if you have to contract it down to two combs. And then add combs as needed, using a division board. When the honey harvest comes your bees will be in condition to gather it.

Pres. BALCH—The best division board is a close fitting frame.

JAS. HEDDON—A comb is the best non-conductor—better than any cloth or board to retain heat, especially when the frame is tight-fitting, as Mr. Balch uses it.

GEO. STRAY—My plan has given me more satisfactory results than any other I have ever tried.

Pres. BALCH—The only objection to a tight-fitting frame is, that it is not quite so easily manipulated, but it overcomes all the objections of a loose frame. How do you dispose of your removed combs?

GEO. STRAY—Put them over on the other side of the division board, so that the bees will not be compelled to keep a lot of honey warm, when the heat is necessary for the production of brood.

JAMES HEDDON—Bees cover their brood and keep it warm. They are heat producing and retaining bodies, according to circumstances.

W. W. MILLARD—If you were to set a hen would you select the top of a brush heap that would give a constant draft of cold air, or the ground, where she could better control the temperature and keep her eggs warm? My idea is that better success may be attained by keeping your bees in a place, the size of which will correspond with the strength of the colony.

A small furnace will not keep a large room warm in a cold day. So it is with bees; and if you keep them warm they will breed faster and prosper better. By closely watching their procedure this will readly be seen.

JAS. HEDDON—The brush heap isn't a proper illustration! It would be a parallel case to inserting a hollow tube in the centre of the brood nest. Experiments have demonstrated the fact that bees are rearing brood in the spring when the outside combs are cracking with intense cold. How much heat escapes from a hive when the cover fits so poorly as to leave a large crack all around? So little that it can scarcely be detected. We theorize too much. Those swarms that are "ventilated to death" in the spring months, breed just as fast as those that are so snugly and cosily "tucked up in quilts" and the like. I remember that one spring after setting out my bees, the covers warped so badly, that I feared the consequences of so much upward ventilation, and procured a quantity of listing with which to close up the cracks. I worked with a will until the listing was exhausted, with some 10 or 12 hives that were still "all ventilation," but as I was completely tired out, thought they might get along as best they could, they couldn't any more than perish anyway. What was the result? Three that were left to shift for themselves were *just as strong and vigorous in June*, as the others.

JULIUS TOMLINSON—The contraction of hives depends altogether on circumstances. No rules can be given that will apply to all cases. Exercise care and judgment, and adapt yourself to your surroundings.

W. W. MILLARD—Related experiments of crossing different breeds of animals with a view to the development of certain desirable qualities. In breeding bees, we should aim to cultivate their comb-building and honey-storing qualities. Combine, if possible, the best characteristics of the two races.

PRES. BALCH—I have noticed one peculiarity of the blacks, that has not been alluded to—they "hang out" worse in summer than the Italians.

DR. SOUTHARD—Upward ventilation will obviate it.

J. H. EVERARD—Bees "hang out" from excessive heat and heavy combs of new honey. Have had bees winter well that were exposed to a direct current of cold air.

The Secretary then read a paper on the "Fallacies of Bee-Culture." He took the ground, that notwithstanding we had made commendable progress in scientific bee-culture, there yet remained a vast amount of empiricism and error, that passed as science; and proceeded to point out the more common and glaring fallacies. The paper elicited much comment, agreeing in the mass with the views he expressed; but as most of the ideas advanced are contained in the report of yesterday's session, the discussion is omitted.

After the transaction of business relative to the affairs of the Association, and the adoption of a motion, extending a hearty vote of thanks to those who had kindly furnished us valuable papers, the Convention adjourned to meet in Kalamazoo, on the first Wednesday of May, 1876.

We may add that the Convention was harmonious and united throughout, and that all seemed to feel amply repaid for the time, trouble and expense incurred in attending the present meeting. And thus ended one of the best and most profitable apistical gatherings of American apiculturists; a gathering that, in the opinion of many present, will mark a new era in scientific and profitable bee-culture in America; and that convening on the threshold of the first centennial of the Republic, it might prove to be an auspicious beginning of a brighter future for American apiculture, was the earnest and sincere wish of all in attendance.

HERBERT A. BURCH, *Sec'y.*

South Haven, Mich.

Voices from among the Hives.

COLUMBUS, IND.—Jan. 3, 1876.—"My bees are doing finely; they commenced to work on rye flour *Dec.* 23, and seem as anxious about it as if it were spring. The queens have all commenced to lay and I find brood in all stages, from the egg to hatched bees. This is something uncommon, to test the purity of *late hatched* queens by their worker progeny in Dec. and Jan. The temperature Jan 1, showed 78 deg. in the sun. Should the winter continue open, I expect bees (with the start they now have on brood rearing) to swarm about the time apples bloom this season."

J. M. BROOKS.

WAYNE CO., O.—Dec. 21, 1875.—"I had 10 swarms in the spring, have now 21; from one I had three, and 20 lbs of box-honey. My bees are all on their summer stands, packed around with straw, and covered to keep them dry. I had nothing but white clover and corn fields for my bees to work on this snmmer."

D. H. OGDEN.

MONMOUTH, ILL.—Jan. 1, 1876.—"I put my bees in the cellar Nov. 9. The past ten days have been unusually warm for this time of the year. Temperature out of doors 50 to 62 degrees. The past two days we have had continuous rain, and to-night I find water in the cellar 3 inches deep. Am afraid I shall have to move them out to prevent their being drowned. This is the first time since 1869 that water has come into my cellar." T. G. McGAW.

INGHAM Co., MICH.—Dec. 21, 1875.—Last winter I lost only one stock out of 45, and sold 5 more; increased the 39 left to 130; raised about 4,000 lbs. of honey."

JOHN L. DAVIS.

LYON Co., KANSAS.—Jan. 4, 1876.—"In 1874 I lost all my bees. In the spring of 1875 I bought two swarms and put into my hives that were full of comb. By the last of May I increased to ten colonies and extracted 225 lbs. of honey."

S. P. SEWERS.

MCDONOUGH Co., ILL.—Jan. 8, 1876.—"I started in the spring with 40 colonies; having lost ten during the winter, caused by the long cold weather, as they were out on their summer stands. I made my loss good by artificial swarming; raising my queens from one of Dadant's imported queens, which by the way are dark enough; but very good natured and splendid workers. Bees scarcely made their living from spring until buckwheat and heart's-ease came; then they took the swarming fever and swarmed until the 10th, of Sept. About this time the flow of honey stopped, and late swarms are starving, having but little comb built. I took about 200 lbs of box honey and 100 lbs. extracted. My bees are Italians, and mostly in good condition for wintering." S. H. BLACK.

CHENANGO Co., N. Y.—Dec. 30, 1875.—"The queen Mrs. Tupper sent me is all right and very prolific. The bees are good workers and well marked. I have now twelve Italian swarms. This has been a good season for bees; mine have increased from four to fourteen, and all have plenty of honey; besides giving twenty-three six-lb. boxes of honey. We have here alder, willow, maple and fruit blossoms; then raspberry, white and alsike clover; after that comes sowed corn and buckwheat, these are plenty; but I do not consider them of much account for honey in this section."

C. A. SARGENT.

BOONE Co., ILL.—Dec. 26, 1875.—"Although it is late, yet I will send a short report of what the bees have done here this season. I took 13 stands of bees from the cellar; lost four by springing, increased to 22 and took (600) six hundred pounds of *buckwheat* honey, (Ext.) White clover in abundance, but my bees were too backward for that kind of harvest."

P. YOUNG.

FREMONT Co., IOWA.—Dec. 13, 1875.—"I cannot agree with Dr. W. B. Rush, in his letter in the December number of the JOURNAL as to success in the apiary, or his advice to "Do your swarming after the honey season is over." I think that locality should govern the case, or rather the time that we have the honey season. Where the season is early, his idea will do; but where the honey season is late, say from the middle of August until frost, I do not think that his plan will work well. My experience has been that two seasons out of three in this locality, stocks need feeding most of June. I have had a stock that on the 10th of April had honey in all of the frames, and the outside frames full and capped over, that in June I had to feed, but in the coming August and September I got 160 lbs of extracted honey from the same stock. The last season I had but little surplus honey until the middle of August, when the honey season commenced in earnest; when frost came my bees were storing a 100 lb per day; consequently if I did my swarming after the honey season was over, it would be swarming after frost, which I do not consider a good plan. While on the other hand, by dividing as soon as practicable in the spring, say the last three weeks of May and the first week of June, I then can have them built up strong by the honey season, and have twice as many bees as I would have had, if I had left swarming until after the honey season."

ED. WELLINGTON.

HAMILTON, ONTARIO.—Jan. 1st, 1876.—"The thermometer at sunrise to-day stood at 50°; at mid-day 90°—a very fine day."

MYRON JOHNSON.

MONTCALM Co., MICH.—Jan. 10, 1876.—"If E. D. Godfrey will place a small box just in the rear of each hive that he wishes to remove boxes from, and place the supers from each hive in one of these small boxes, with a cloth of some kind spread over the top with one corner turned back to give space for the young bees to get out, and then take off the boxes in the forenoon only, he will find them minus bees at sundown, unless now and then a queen happens to be in the boxes; in which case you can smoke them a little and drum them out and allow her to go back into her hive with the few bees that will be with her. Bees, if they are young, stick to their treasures, if placed among strangers, and worse, if there happens to be a queen present."

HIRAM ROOP.

HANCOCK Co., W. VA.—Dec. 25, 1875.—"I commenced with 34 stands of bees last spring; increased to 50, and got but little surplus honey, on account of the heavy frost in April. All the fruit bloom was killed and also the black locust and the white clover by the dry fall and hard winter. There was but little honey in any that did bloom. This season the tulip, linn and sumac were our three best honey-plants. In ordinary seasons white clover, fruit bloom, tulip, black locust, linn and alsike clover are the best. Then we have raspberry, blackberry, smart-weed, and the three kinds of asters; golden-rod, and many others. Our main dependence is on locust, white clover and linn or bass-wood." ALFRED CHAPMAN.

KOSSUTH CO., IOWA,—Nov. 19, 1875.—My report for 1874 and 1875 shows that even in Northern Iowa bees can be kept and make a fair showing. I commenced bee-keeping in the summer of 1874 by the purchase of one colony of black bees. From this colony, 42 lbs of box-honey were taken and an increase of one colony. These two were wintered in the cellar and came out in the spring of 1875 in fair condition. In the spring of 1875, I added by purchase, two colonies, one Italian and the other black. During the season, the increase made 9 colonies, with ample stock for wintering. In addition to increase, I have taken 165 lbs of nice comb-honey in boxes and small frames. One colony of black bees gave 69 lbs. in small frames. (His stock was not divided until the last week in August.) I go into winter quarters with ten colonies; one small colony of pure Italians, purchased from Mrs. Tupper in Aug. and now at this date very strong. I prefer the Italians from the fact, they will keep their hives clear from the moth-worm, by politely showing them the way out.

RECAPITULATION.

By 10 Colonies Bees @ 10....	$100.00
" 165 lbs. Honey @ 25....	41.25
	141.25
To 4 Colonies in spring.....	$40.00
1 Pure Italian.....	12.00
Material for Hive.....	7.50
Bee Journal & Books.....	3.25
	62.75
Balance in favor of Bees.....	78.50

DAVID PATTERSON.

AURORA ILL.,—Dec. 1st, 1875.—Ten years ago I began with two swarms in a box hive, and two years later I bought six in the Langstroth hive. After using them one summer, they convinced me that I wanted no more box hives. I then bought Langstroth on the honey bee, and King's works, and in 1870 subscribed for the AMERICAN BEE JOURNAL, and I think I have read every number from that time till now, and by ten years' experience in handling bees I claim that I know something about them.

I have lost not more than three swarms through dysentery. I have never lost a swarm by their going off in swarming time. My total loss for the last ten years would not be over fifteen swarms. I always got my share of honey in honey time.

The reasons for the above are: I always take my bees into the celar when the hives are perfectly dry, before the cold weather sets in; I set three or four hives on top of each other, and put one inch strip between them and open all the holes in the honey board, and keep the room ventilated so that the thermometer stands about thirty-five degrees. In March when I take them out on their summer stands, I quilt them until about the first of May.

I always hive a new swarm as soon as they have partly settled, and give them one clean empty comb.

I always keep my stocks strong and see that they have enough honey and keep them from robbing.

Feed early in spring, to induce breeding, and I always had my share of honey in honey time. This season has been a poor one, as all the reports show, from this part of Illinois.

I had forty swarms last spring and have 56 now in my cellar. I sold three swarms and about 350 pounds of honey.

Our main honey plants are fruit blossoms, white clover, and buckwheat. From the fruit blossoms and white clover we did not get much honey this year.

JOHN DIVEKEY.

SANTA ANA, CAL.—"Myself and companion have an apiary consisting of 150 colonies of bees, in Los Angeles Co., Cal., 18 miles east of Santa Ana, and 12 miles north of San Juan, in the foot hills of the coast range of mountains. My partner located here in the fall of 1873, at which time it was the only apiary in this section. Although his bees were in the old-fashioned box hives, he had excellent success; owing no doubt to the superiority of range and mildness of climate

Others hearing of his success have concluded to try their luck in the bee business, in the same locality. We have 12 or 14 families located here who are establishing apiaries, having waited for the return of cool weather so they may remove their bees in safety from the valley. We have succeeded in transferring 150 colonies, from the old box-hives to the Langstroth, without the loss of a single one, although by some accident, we lost 4 or 5 queens; but they were soon replaced by inserting a frame of larvæ into the queenless hive. In transferring we took 13,000 lbs of first-class strained honey. My partner had taken 7,000 lbs before transferring, making in all 20,000 lbs from 150 colonies in the old box hive. We expect to have at least 200 colonies with which to commence operating in the spring. S. H. P.

SCHORARIE CO., N. Y., Jan. 5, 1876.—"I commenced last spring with 60 stocks, some very weak. I have now 88 stocks, am wintering them out-doors. They appeared to be in good order up to Dec. 31; it was warm Dec. 22d, so that they had a splendid fly. They had none before for nearly two months. I believe I would rather risk them out doors than inside, unless I have a good, warm, dry cellar, and that under a room that has fire all through the winter. Last season I wintered 15 out doors with chaff behind the frames, and on top; they came out all

right and were my best hives last season. It has not been a very good season here; the most of my honey was gathered from the golden-rod. I had 3,100 lbs of box honey in two lb boxes and 1,000 lbs extracted taken from partly filled boxes. By using one-comb boxes, I can extract all my partly filled boxes, and save the combs, but if I had boxes with two or three combs and partly filled, I would have to let the honey remain. I can get more honey in two lb boxes than in larger ones. Still it makes a great deal more work to get honey in small boxes than in large. I box my hives on the back of frames and on top. I can get the bees to work in the back boxes the same as on top. BENJ. FRANKLIN.

LENAWEE CO., MICH.—Dec. 24, 1875. - "2,000 lb of box honey all sold at 20c to 25c per lb. This is my crop for 1875." J. F. TEMPLE.

HENRY CO., IND., Dec. 27, 1875.—"I see from the reports sent to you that there was a very poor honey harvest in nearly all parts of the country. Still the markets are better supplied with extracted honey (sugar syrup) than in any previous year, and prices for comb and extracted honey range lower than for many seasons past, thus proving it to have been a good season for sugar at least. One needs now only one dozen swarms of bees to obtain as many tons of honey. It is not only disgusting, but actually discouraging, to all honest bee-keepers to see the markets flooded with the so-called 'Extracted Honey,' when the reports from all parts of the country show a very light harvest. If we have to resort to deception and fraud to make money out of our bees, we had better retire from the business. Extracted honey is a failure, and belongs to Mr. Judd's columns of humbugs.

"The outlook in bee-keeping is anything but flattering at this time. The only hopeful indications are that the people will soon see the deceptions and frauds practiced upon them by bee-keepers and honey dealers, and refuse to take a pound of their so-called 'Extracted Honey' at any price. All the space in the JOURNAL now taken up in discussing the merits of Extractors and Hives adapted to the use of them, might be more profitably employed in giving directions for obtaining box honey in quantity and good shape for market.

"From one strong stock of pure Italian bees, I last year (1874) obtained 84 lbs of box honey and two swarms of bees. The first swarm stored 12 lbs of honey in boxes. I use the two-story Langstroth hive of the form used and sold by Chas. F. Muth, of Cincinnati, Ohio. These hives contain three boxes or cases in the upper story, each case holding 8 small frames, holding, when full, 1½ lbs honey each. The only assistance the bees received from me was three or four pieces of drone comb taken from another hive and fastened in the small frames above, to give the bees a start. My other hives with ordinary boxes gave not more than half the quantity of honey." B. Y. T.

DE KALB CO., ILL.—Jan. 13, 1876.—"MR. NEWMAN: The splendid Chromo came to hand duly, and is admired by all who see it." A. STILES.

DESHA CO., ARK.—Jan. 8, 1876.—"I commenced last spring with five stands of black bees; increased to 20; took near 700 lbs. of box honey; sold surplus at 25 cents per lb. I am a beginner, and have never seen an extractor. The woods are full of wild bees; they never freeze to death here. We have linn, red sumac, white clover and catnip; besides thousands of flowers all over the woods of different kinds, from which the bees gather honey. Some of our brother bee-keepers, who think of going to California, had better look at this country before going there. This country is especially well adapted to bees and fruits, the lands are very rich and cheap. What we need is men of experience in bee culture. The winter so far has been very mild; bees have worked almost every day. Turnips were in bloom last month. THE AMERICAN BEE JOURNAL is a great help to me." JOHN HUGH MCDOWELL.

HASTINGS CO., ONT.—Dec. 22, 1875.—"Last spring I commenced with 59 hives, nearly all Italians. I have taken 5,750 lbs of extracted honey, and have increased to 100; I have 99 in winter quarters. One lost its queen, and I united it with another. I use the Thomas hive; some are very large, having 20 frames; the 16 frame hives are just as good. I extracted all the clover and basswood honey, and let them fill up with buckwheat honey, and then I divided them and gave each hive a queen. Let me tell you what one of my large hives did in ten days during basswood bloom: On July 23, I extracted all the honey, 45 lbs. On the 24th, it gained 24½ lbs; on the 25th, 30 lbs; on the 26th, 12½ lbs; on the 27th, I extracted 66 lbs. That was a windy day, and it gained only 5½ lbs. On the 28th it gained 38 lbs; and on the 29th, 22 lbs. On the 30th I extracted 70 lbs, and the same day it gained 17½ lbs; on the 31st it gained 17 lbs; Aug. 1st, it gained 4½ lbs. Total in 10 days, 171½ lbs. I had it on platform scales all the time, and weighed it every morning. W. C. WELLS.

SHERMAN, TEXAS.—Nov. 6, 1875.—"I lost 7 out of 14 colonies last winter; they have increased by natural and artificial division to 21. I had seven very weak ones in April. Cold, bleak winds kept them back until late. I got about 60 lbs. of honey and a plenty for winter. Our best honey plants are china (a wild tree),

horsemint and a vine similar to grape. Golden-rod does not produce honey every year. Aster, ratan, elms, sumac, swamp dogwood, milk-weed, fire-weed and hundreds of other plants that produce some honey. Drouth cuts off all, at times. July, August and September ordinarily are the hardest months of the year. I think it will pay to ship south to winter. After frost in the north bees would here gather a fine harvest, and winter supplies; then in spring they would swarm, then *all* swarm again in your climate. It would not be expensive to charter a car. I have thought for several years that an apiary on the Mississippi River would pay. Winter in the orange fields of Louisiana and take the seasons up the river to Minnesota; we have a new source of pollen in September, rust, from cottonwood leaves."

M. S. KLUM.

HAMILTON, ILLINOIS, January 13, 1876. "I see that through the instrumentalities of my article on Foul Brood, I am unintentionally injuring the business of Messrs. Dadant & Son. Having dated it at Hamilton, Ill., I had thought that my address was too well known to make extra mention of it, but it seems some overlook these things. At the end I said "parties wishing to write me, will *please* notice *the change of address*. Certainly this does not imply that I had my bees here. But for the benefit of those who do not know, I will say that I lost my bees in *Berlin, Wis.* I would not for the world injure anyone by such means, although there are those who will read this, whom I well know, tried to injure *my* business, by circulating a report to the effect that my honey was poisoned, because my bees were affected with foul brood; the party pretended to be a warm friend of mine, and under that guise, obtained all information from me necessasy to start in bee-culture. Another party kindly sent a note to one of our journals stating that I and my neighbors had foul brood among our bees, but I did not let it be known. I know who it was, though not informed by the editor, and I thank him for his trouble—hope it may set his conscience at ease."

J. D. KRUSCHKE.

LENAWEE CO., MICH.—Nov. 16, 1875.—"Like many of my brother apiarists, I have kept silent for a long time waiting for a favorable report to give the public. This I could not do in the spring, as my loss in wintering was very heavy. I arranged my bees for wintering by placing them in a row fronting to the southeast; placed them eight inches apart with a tight board wall behind, eight inches from them, packed the spaces between and behind them with straw, also filled the caps with the same. Had them protected in front with a wide board to keep off the rays of the sun, when it was too cold for a flight, and covered with a board roof to keep out the rain, but after all my trouble the extreme cold of the winter was too much for them; for when the first flowers of spring came I had but nine left out of sixty, and some of those were in a very bad condition. About the first of May I bought seven colonies (one pure Italian, from which I have Italianized the most of my stock). The season has been a very favorable one, both for increase and honey. I have increased my stock to forty colonies, mostly by artificial swarming. Have received twenty-one hundred pounds of box-honey (made in the sectional honey boxes) and four hundred pounds of extracted. I use the Barker and Dicer hive and sectional honey boxes; I think these boxes are almost perfection, find I can realize from three to four cents more per pound for my honey, than by putting it up in any other way."

S. PORTER.

Notes and Queries

ANSWERS BY MRS. TUPPER.

Is Northern Colorado suitable for apiarists? Is the moth as troublesome there as here? Is it necessary to provide pasture for bees there? How about the Rocky Mountain bee plant? A. H. M.

Scottsville, Ill.

The few who are keeping bees in Northern Colorado, report excellent success. Pasturage there is abundant, and the increase of stocks rapid. No occasion as yet to plant anything there for them. The Rocky Mountain bee plant is found in most parts of Northern Colorado, and these are rich in honey. The moth will trouble you there after many bees are kept, no doubt—if you are careless—but with Italian bees and movable comb-hives, any one can, with reasonable care, be free from moths.

Is it beneficial to set bees out and let them have a fly on warm days, where they are wintered in the cellar?

ASA TEFFT.

Chatauqua Co., N. Y.

We cannot think there is any advantage in it, when bees have been properly put away, with plenty of sealed honey. If they have been fed in the cellar or house, or been excited by light or too warm quarters, to eat freely, it is best to put them out for a cleansing flight.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, MARCH, 1876. No. 3.

The Bee Queen's Temptation.

Since our last issue, MRS. ELLEN S. TUPPER, long known as a writer on bee culture, has "fallen like a star from heaven."

On the 28th of January Mrs Tupper was arrested for forgery. It appears that she has freely used the names of her relatives and friends, and in addition, forged the names of leading citizens of various cities of Iowa, from the name of the governor of the State, down; as well as the names of leading men in the Eastern States. Her forgeries will foot up somewhere from fifteen to twenty thousand dollars, and perhaps more. A correspondent of the Chicago *Tribune*, from Des Moines, under date of February 3d, says:

There have been notes and drafts to about $2,000 protested and dishonored here for want of funds in bank. What has she done with this money? She has not expended it here, as her property is incumbered by mortgages, covering it all, and collections against her have been difficult for some time. She has not expended it in living or about her premises. It is supposed she has sent the money away for some other purpose. She was arrested at State Centre, and removed to Monticello. Her daughter, Kate, went to her, and, when she arrived, she gave Kate a letter, requesting her to read it alone. It was a long letter, reviewing her struggles in life to raise her family and maintain them, and inclosed two notes, which she said, were given under circumstances that she must keep secret. One read as follows:

DES MOINES, IA., December 1, 1875. — Thirty days after date I promise to pay Mrs. Ellen S. Tupper, or bearer, the sum of $1,000, with interest at 10 per cent. per annum.

his
JESUS ⋈ CHRIST.
mark.

The other was for $500, at sixty days, and drawn in the same way.

She induced the publisher of THE AMERICAN BEE JOURNAL to indorse for her to the amount of $1,000. In doing this he broke over a rule of his life,—his father having been ruined by endorsing Bank paper. But he did it out of *pure sympathy*, believing her story of embarassment caused by her sickness and being unable to attend to her apiary. She claimed that she had honey and supplies enough, which she could turn into money in 30 days to pay it, and if not, she had a mortgage on some land in O'Brien County, or something of that sort, that she could raise it on, within the time, and that we should never hear of it again. But we not only heard from it *often*, in the way of Bank protests, etc., that nearly ruined us financially — but by a very "crooked" financial practice (a sharp trick) she doubled the amount, making it $2,000. For a portion of this, we understand that suit is about to be commenced against us. Now, *sympathy* will not pay it—it must be greenbacks—to the last cent.

The editor of the Denison *Review* thus soliloquises:

"Of course she is crazy; has been ever since she began to forge. A man must commit murder, or at least, adultery; a woman must poison her husband, strangle her babe, or forge notes, before the public finds out how much good there is in them —very little attention being paid to men and women when they are honest."

Pomeroy's *Democrat* says:

"Mrs. Tupper's proverbial philososhy was to forge ahead till she gained $11,000. And now comes emotional insanity with its uplifted umbrella."

We should be glad to think it insanity, if we could—*but that is impossible.* There has been too much "method in her madness;"—her "crookedness" has been too *chronic.*

A prominent bee-keeper in New England, well known to our readers, remarks in a letter of recent date: "I don't wish to say much against Mrs. T——, but if swindling, fraud, and forgery, is any indication of insanity, she has been insane,

to my knowledge, for ten years, at least."

Letters and claims from bee-keepers, all over the country, are coming in thick and fast, claiming that we should settle with them on her account. To all such we must say: There is no more justice in asking us to settle her bills than in claiming it of the "King of the Sandwich Islands!" She never had any interest in THE AMERICAN BEE JOURNAL, and all she wrote for it was paid for, "cash in advance, at good round figures."

On February 10th, we addressed the following note to her: "MRS. ELLEN S. TUPPER, Des Moines, Iowa:—You are hereby notified that the contract made with me for your editorial services on THE AMERICAN BEE JOURNAL is this day annulled—severing your connection with that JOURNAL entirely. . . . You are, of course, well aware of the cause of this action—and I need not repeat it here."

THOMAS G. NEWMAN.

We understand she is in a very weak and nervous condition. If she is insane, her "crooked" transactions are no doubt the *cause* of it, rather than the opposite. We wish her no harm, and greatly regret the necessity for this article—but justice demands that we should speak out. Let this suffice.

THE BIENENVATER.—This is the title of a Bee Journal published at Prague, Bohemia, Europe, by Rudolf Mayerkoeffer, a good friend of the honey-bee, who writes us that there will be an International Agricultural Fair in Prague in May and June, and he is preparing for that occasion, several beautiful glass boxes with excellent honey. The Bienenvater wants to purchase Nos. 1 to 6, January to June, 1875 of the AMERICAN BEE JOURNAL. If any one has them to spare they may be sent to this office, and we will settle for them.

☞ R. S. BECKTELL, of New Buffalo, Mich., says that a neighbor of his has found a stone weighing about one pound, which looks as if it had once been a piece of comb-honey, broken and doubled over, so that it presents the cells in different shapes. Petrified honey! Well, why not?

The National Society.

The feeling seems to be general that after the Philadelphia meeting, the National Society should be abandoned. This Society appointed the 6th of September for its next meeting at Philadelphia. We think this time should be adopted for the Centennial Convention, and thus unite all interests. The President, Mr. G. W. Zimmerman, thus writes in reference to the matter:

"After holding the meeting at Philadelphia, I think the Society had better adjourn *sine die*. I would recommend that each State having no organization, should organize and meet at least twice a year. The journeys to a National Convention are long and expensive, and as we can't get railroad fares reduced now, it is burdensome. This matter was fully discussed at the convention at Toledo, and those present from Ohio organized 'The Northern Ohio Bee-Keeper's Society,' whose meetings will be duly announced."

What say the bee-keepers of the United States? Shall the National Society be abandoned or not? We hope they will speak out now, or "ever after hold their peace," on this subject, at least.

An exchange observes that it is a remarkable fact that the first month of this Centennial winter closely resembles that of 1776. The journals of that year speak of the unusual mildness of the season. It was even said that the lack of the usual ice in Boston Harbor prevented Washington from crossing his forces and attempting a surprise on the city, and the Americans were enabled to continually send forth vessels from all parts of the harbor to the West Indies for munitions of war. The mild season enabled Gen. Schuyler, in the first days of January, to dispatch his well-planned little expedition up the Mohawk Valley to surprise the Highlanders under Johnson.

BIOGRAPHICAL SKETCHES AND PORTRAITS. We commence a new idea in this issue of THE AMERICAN BEE JOURNAL,—that of publishing Biographical Sketches and portraits of some of our "bee men." Those wishing their face to appear as an introduction to the thousands of our readers, will please communicate with the

PUBLISHER.

Centennial Bee-Keepers' Convention.

The Secretary of the Centennial Commission has sent us a letter stating that there would be a special show of honey, June 20th and Nov. 1st. We wrote him that the first was too early and the latter too late, and urged that the time be changed to August or September.

We wrote several bee-keepers in different parts of the country, asking their opinion about calling such a convention—and also wrote the president of the National Convention for his opinion—all agree with us, that we should have a convention at a suitable and convenient time, say August or September. Now we ask for a general expression of opinion—and would like those who intend going, to say so now; to write us in time for the April number. Letters must reach this office by the 20th of March.

Dr. Millett has sent us the following letter, which explains itself.

HOLMESBURG, PENN.

DEAR SIR:—I think the bee-keepers throughout the country, who wish to exhibit specimens of *new honey and comb*, ought to know that a *certain time* will be allowed in which to add fresh specimens, if those who have authority in the matter will make early application to Mr. Burnet Landreth, the chief of the Bureau of Agriculture. I write this, that the committee appointed by the N. A. Bee Association may let Mr. Landreth know what time will be most desirable—whether from July 1st to 20th, or later.

In a late number, the idea was thrown out, that the honey of 1875 *only* could be exhibited. I have authority for saying that such is not the case. Arrangements may be made (if done soon) to exhibit the gatherings of the Spring of 1876. The same arrangements will be made for flowers and fruit and vegetables.

It is very important that bee-keeping, in all its branches, should be fairly and fully represented—hives of all kinds, bee-books, bee-implements, etc., etc. There will never be such another opportunity.

D. C. MILLETT.

23d Ward of Phila., Station M.

This matter ought to be generally discussed and a decision arrived at before our next issue, and we hope to hear from hundreds during the next fifteen days, and then full announcements will be made in the April number of THE JOURNAL.

In changing post offices, always give old as well as new offices.

☞ JAMES HEDDON and HERBERT A. BURCH, of Michigan, called on us, since our last issue. As we had never met either of them before, we were glad to make their acquaintance. We were deceived. We had pictured Mr. H. as a regular "Vinegar Bitters" man. Instead of that we found him pleasant, agreeable and very intelligent. He differs from many of us in his views of some things, but he has a right to his views, and the expression of them. He acknowledged that his remarks were too sweeping about the Bee Journals, and said he had no intention of applying his remarks to THE AMERICAN BEE JOURNAL. Mr. H. is earnest and persistent, and has a right to be heard. He has an article in this issue on "Whom the gods would destroy, they first make mad," in reply to remarks made by friends KING & SLOCUM of *The Bee-keepers' Magazine*, and friend Root, of *Gleanings*. Some remarks are severe; but in giving them a place, we do not wish to be understood as being in any way unfriendly towards our cotemporaries, for we are not, but simply as a matter of justice, to let Mr. Heddon be heard for himself. THE AMERICAN BEE JOURNAL has always prided itself upon the fact, that its columns were free to all—and is, has been and always will be—devoted to the interests of the honey-producers of the world, so long as it is in the hands of the present PUBLISHER.

☞ We are asked to give Geo. S. Wagner's address. We do not know just where he is—but he went to heaven some fifteen months ago, where he no doubt received a hearty welcome from his loving father—for many years the able editor of this JOURNAL. Mrs. W. is now left alone, and has returned to their former home at York, Pa., awaiting the angel's call.

☞ In order to give us more room and pleasanter quarters, we have removed our editorial and business room a few doors north. Letters addressed to either numbers will readily find us. Callers will find us at all times at Room 20, No. 184 Clark St., Chicago, and will always be welcome. Come and see us when in Chicago.

☞ A correspondent writes us, asking which would be the cheapest and most effectual way to reach bee-keepers—by circulars or an advertisement in the AMERICAN BEE JOURNAL? By all means the advertisement is the most effectual way of communicating with bee-keepers. Every bee-keeper of prominence or importance takes the JOURNAL and reads it through each month. The subject of economy does not admit of a question. Read what STAPLES & ANDREWS say in their letter in this number. As a proof that advertisers know where it pays them best to advertise, we remark that we do no canvassing—all our advertisements come unsolicited, except by the merits and standing of THE AMERICAN BEE JOURNAL.

☞ By private letter we learn that Wm. McKay Hoge, *alias* John Long, who has been carrying on the Comb Foundation business in New York, is *non est inventus*. Also, that the Honey House of Mrs. Spaids, in New York, is closed, "To let," being posted on the door. Our readers should make a note of this.

☞ The warm weather of the past two months, all over the country, has caused the buds of fruit trees to swell, and either an early fruit season, or none at all, will be the result—to be determined by the presence or absence of Jack Frost during the coming month.

☞ In order to give the full report of the EASTERN BEE-KEEPERS' CONVENTION in this number, we were compelled to omit several pages of matter already in type, leaving it for the April number. We have added eight pages to the present number making it forty, instead of the usual thirty-two. Another eight may be added at no very distant day.

☞ L. B. Hogue, Lloydsville, O., writes us that the honey-mine story that we enquired of in the last number, is entirely without foundation. He says he was in that locality when the story was invented, and it was thought to be a "huge joke."

H. D. Mason, Onondaga County, N. Y., writes: "My recept for curing bee stings is kerosene oil, applied as soon as stung. It never fails with me."

For the American Bee Journal.

Moses Quinby.

"An honest man is the noblest work of God."

The friend of man in every peaceful way,
Where science, knowledge, thought, afforded means,
The gentle, kindly, open heart portray
Where tenderness with love serenely beams.

How low and little seems the conquerer's name,
Compared with thine, philanthropist and friend!
True worth and goodness—source of grateful fame,
Great benefactor thine with blessings blend.

Knowledge, long sought, to thee was reckoned nought,
Nor narrow, selfish view was entertained,
Until the world could profit by the thought,
Your greatest pleasure—what mankind has gained.

These are no empty terms of fond regard
From friendship drawn—though friendship's ties were sweet.
The gain of annual millions—nectar barred;
A fact your science taught the world to reap.

To-day we miss that kindly beaming smile
Which won't to cheer while teaching something new,
I list thy coming; mind doth so beguile,
Nor can I deem these senses speak so true.

Is it all wrong? Why can you not be here?
Does your identity yet still remain?
Have we all knowledge in this nether sphere;
No want your guidance, greater heights to gain?

The God, the Law, the Man, the same, then why,
True, the relation, change in which we grow.
But science teaches, and truth cannot lie,
Why not, then, learn, these higher truths to know?

What weak admissions are we wont to make,
That any truth should rise beyond our ken,
Our business is to learn—not stand and quake—
What greater thought can mortals comprehend?

Can we suppose you'd take no pleasure here?
Did you e're shrink where man the right could see?
Where then the reason, but we stop our ear;
Reason's not popular. When will it be?

But O, dear friend, your course was ever plain;
Progression's law you ever recognized;
And here, as there, wherever you remain,
Your power not less, through death baptized.

I cannot say good-bye, much less farewell:
Through law's relations, I can learn from thee,
There is no Death; true science trumpet tells,
Through every change, a living God we see.

The work well done so far is sure your due;
I know of none who greater deed hath done;
But that's the reason, if ought still is you,
It must through onward, endless cycles run.

Nor here I doubt; the God within was clear;
From what we know, we judge of the unknown.
Far past dull faith is knowledge; soul to cheer,
Immortal life, demonstrate now is shown.

Hail life's grand anthem then. All are of Thee,
Great God; still nearer we to Thee and Thine.
Thus all in all, forever still must be,
And our good friend but fills up Thy design.

S. ALEXANDER.

☞ Our "Notes and Queries" department will hereafter be conducted by Mr. Ch. Dadant, who is well known as a practical and successful apiarist. The matter prepared for this number is crowded out.

Biographical.

Joseph M. Brooks.

JOSEPH M. BROOKS was born in Mt. Holley, State of New Jersey, June 8, 1844. At the age of two years his parents removed to Chagrin Falls, Ohio, where they resided until 1849, when they moved to the city of Cincinnati, thence to Columbus, Ind., where he now resides. Mr. Brooks is, by occupation, a tinner. At the age of thirteen years he commenced his trade under the instruction of his father, and for several years has been foreman in the principal shops of his town. Although a mechanic, he has always taken a deep interest in "pets" of some kind, having kept fancy pigeons and poultry until 1874, when he gave them up in order to better care for his bees, believing that "what is worth doing at all, is worth doing well,"—hence his success as an apiarist.

In 1870 he, in company with his brother, purchased their first bees (blacks in box hives). Although they were new at the business, they, with the aid of Quinby's Bee Keeping Explained, succeeded in transferring them into frame hives and dividing and Italianizing them the first season. Not being satisfied with the Mitchel or Buckeye hive they were using, they, like all beginners, began to invent hives to their own notion, and as many times set them aside, until, finally, they decided on what is now called "The Brooks Non-Patent Hive. .This hive is worked either as a one or two story hive. If run for comb-honey, it contains eleven broad frames, 12x12 in. square, and has abundant room for boxes or small frames, directly on the brood frame. If extracted honey is wanted, an upper story with another set of same sized frames are set on, making twenty-two frames to the hive. They are now wintering fifty-four colonies (pure Italians) in these hives, and they believe them to be the cheapest and best form in use. Their success from the first has been remarkable, never yet having lost a single colony by dysentery or disease of any kind, while their neighbors lose more or less every winter.

Mr. Brooks advertises freely in THE AMERICAN BEE JOURNAL, and to this, as well as to the fact that he keeps only the best of stock, can be attributed his business success.

Joseph M. Brooks.

Correspondence.

For the American Bee Journal.

Adulterated Honey.

Few topics, perhaps, pertaining to modern bee-culture, have received such general and wide-spread attention at the hands of apiculturists during the past year, as this subject of "adulterated honey."

If it be true, as has been stated, that our American people like to be "humbugged," it is no less true that they are ever ready to do whatever may be within their power to remedy any evil that shall work to their pecuniary detriment. Thus, when it became apparent to American bee-keepers that their products were compelled to compete with the cheap grades of saccharine matter under the guise of honey, they set resolutely to work to remedy the evil; nor have their efforts been altogether devoid of success. We saw it stated in the "old reliable" some time ago, that this "hue and cry" about adulteration had been a damage to the honey producer; since people had come to distrust all liquid honey as an impure or "mixed" article. This may, Mr. Editor, be true, in a measure at least. We hope it is. If the discussion of this subject has lessened the demand for *manufactured* honey, we are glad of it. If it has had a tendency to make consumers of honey look upon the liquid article in any shape, with suspicion, thereby rendering its already slow sale still more so, we are not sorry. Honey is essentially a luxury, and ought not to be compelled to compete with syrups that are sold by the gallon. But liquid honey must do this, and as long as it is offered on our markets, just so long will it have to compete with the adulterated article, since liquid honey renders adulteration possible. When the price shall have receded below even that of the poorer grades of sugar, we think that our American bee-culturists will discover that their only alternative (if they would make the business pay) is to produce comb-honey exclusively, in small glass packages.

In answer to numerous inquiries of our readers, we will say that "Money in the Apiary," for 1876 has not been issued, and will not be until Spring, perhaps not then. Due notice of its publication will be given in the advertising pages of this JOURNAL.

HERBERT A. BURCH.

So. Haven, Mich., Feb. 21, 1876.

In giving address, be careful to give the full name of individuals, the post office, county and State, and do not write on the same piece of paper that communications for the BEE JOURNAL are written on.

For the American Bee Journal.

Origin of the Albino Bee.

As I have received letters from a number of persons in different parts of the country, who wish to know something more definite in reference to the origin of the albino bee, I will here give a full description of their ancestry. The mother of the queen that produced the first albino bees, I received from Mr. H. A. King of Nevada, Ohio. Let me say here, before I proceed further, she was the best queen I ever received from any person. The granddaughter of this queen is the one that produced the first albino. They were about half albino and half Italian. I have two distinct races of bees in the same hive. Now the difficulty arose in my mind how to get them pure albino. I knew it would be useless to try to breed them pure in my home apiary. So I took them to the South Mountain, out of the range of any other bees, in order to get them pure. I have succeeded in doing so, to my entire satisfaction, and will say, and I think without danger of contradiction, that they are the handsomest bees in the known world. The albino bees have three beautiful yellow bands. From the band to the end of the bee is quite white or bright silver color; their heads are dark velvet color, different from the Italian; the wings are also finer than the Italian. As for their good qualities, I claim the queens to be very prolific layers; the workers are excellent honey-gatherers, they gathered more honey than the Italian last season; they are not as cross, and consequently more pleasant to handle.

D. A. PIKE.

Smithsburg, Washington Co., Md.

On page 63 will be found the report of the Missouri Valley Association, held on the 15th inst. We would respectfully solicit communications or essays from all practical apiarists, to be read at our next meeting, which will be held on Tuesday, April 4th, '76, at the rooms of Mo. State Board of Agriculture, 41 Insurance Building, corner Sixth and Locust streets, St. Louis, Mo., on the following questions: "Do bees injure fruit?" "Will bee-keeping pay?" "What is the best hive for all purposes?" "The best mode of artificial increase?" "Do bees make or gather honey?" "Are the Italians superior to the Black, if so, why?" "The best mode of obtaining box-honey." And we would request that all bee-keepers in and adjoining this county, in Missouri and Illinois, and all that can attend our meetings, to send us their address, so we may notify them of all meetings of the association You will oblige us by giving this a place in your JOURNAL for March, so we can have time to hear from all interested before our next meeting. W. G. SMITH.

For the American Bee Journal.

Comb vs. Extracted Honey.

MR. EDITOR:—I believe that the successful business man of any calling must watch "the signs of the times," and change his base of operations as the "times" indicate.

So far, I have produced mostly extracted honey, but as that article has become a drug at ten cents per pound, and comb-honey in small glass boxes commands a price still, that is better, considering cost of production, I have determined to remove the greater portion if not all of my apiary northward and turn all my working force (130 colonies) to the production of comb-honey in small boxes.

We have been told by some of the instructors in apiculture, that extracted honey at ten cents per pound could be produced as profitably as could comb honey at twenty-five or thirty cents. When I see such assertions as this, I *know* that the one who *honestly* makes them is ignorant of the principles of the manipulation of small boxes. So are the persons who tell us that we can secure more surplus in large than in small boxes. *I can secure more surplus comb-honey in small boxes than any live man can do in large ones*, in such a locality as mine at least. Perhaps better honey locations and different climates might prove differently, but, on the whole, I believe the extractor has kept us in ignorance of the true principles of comb surplus production. A word in regard to

THE DISPOSAL OF HONEY.

As regard to comb-honey in small glass boxes, it sells itself, in large or small quantities, no matter what the quality may be.

I dispose of my extracted honey by retailing it out (at barrel prices) to my neighbors. In this way I *produce demand* at the same rate I do honey. If all apiarists would do this, the price of honey might be advanced slightly after a few years. I find that a great demand for any kind of *well-ripened* honey may be *worked* up in almost any locality. My greatest drawback has been, that the first two years I used the extractor I did not leave the honey in the combs until it was *capped over*, and, as a consequence, it would take several years *yet* to convince *all* the people that they would get good, sweet, rich honey, instead of nectar. This brings me to the matter of

ADULTERATED HONEY.

A short time ago I received a *sharp* little letter from C. O. Perrine. Notwithstanding it did not flatter quite a number of us very much, it glittered with sound logic and good sense. Being always open to conviction, and feeling conscious of having a great deal yet to learn, this letter set me to reasoning upon the subject in this way:

Of course the adulteration of honey increases the supply, but not so much as the proseliting of "everybody" to the bee business; besides if the honey dealers *do* adulterate, they *work* up a demand for their production and ours too, and, furthermore, their honey is far superior to the nectar that the raw recruit will invariably sling out; besides the latter creates no demand in proportion to the honey he raises. Honey is now being bought by the barrel quite below the cost of sugar syrup; and if the city dealers *do* adulterate, they do it no doubt to improve the miserable sour nectar that they receive from bee-keepers.

So consummate is their *process* that it is *very* difficult for any of us to tell their honey from the "simon pure." I am pretty well persuaded that their honey *is pure* now-a-days, at least, and, whether it is or no, the less we have to say about it the better it is for *us*.

If Perrine's honey *is* in every way equal to ours, and we call it adulterated, we admit that honey is no better than sugar syrup. If, on the other hand, our honey is superior to his, the people will find it out for themselves. Let us not insult the consumer by shouting: "City honey is adulterated," "We tell you, so you may know it," "You never *would* know the difference if *we* did not tell you." How many of us have talked as above only to be accused of *our* melting up sugar for our trouble. Take "Warranted PURE Honey" off your labels, and simply put on "HONEY" "from A. B.'s apiary, Pordunk, Pa."

When anybody talks of "artificial honey," laugh at them, and tell them to try it; that you think *them* capable of judging for themselves. *This* hits their weak spot. Put on the back of a ten dollar greenback, "warranted genuine," and no inexperienced person would take it without due examination. Without the above they would fold it up and *soon want more*. This is the way it seems to me. My bees now seem to be quite free of the Winter epidemic, though I have *heard* of some losses quite severe.

JAMES HEDDON

Dowagiac, Mich., Feb. 7th, 1876.

For the American Bee Journal.

Six Months among the Bees in California.

ED. AM. BEE JOURNAL:—You have had in your JOURNAL from time to time, during the past year, many rose-colored reports from this county, which are inclined to mislead your army of readers at the East, who have felt an interest in this land of honey. A few items of other facts may also be of interest to your read-

ers, from one who has had pretty good facilities for "learning the ropes," though I do not profess "to know it all," yet.

The first thing an apiarist does after his arrival here, is usually to hunt up a "ranch," or location, on which to establish his apiary. This is usually located on government land, after many weeks' search, and may then turn out not to be a good one. The main point is to get within the granite or bee range—a strip of mountainous country 8 or 10 miles wide, extending from Lower California up into Los Angeles county, over 100 miles long.

To select a location here intelligently, one needs to be somewhat of a botanist, or at least to know by sight all the different kinds of honey-plants, their order of blooming, and the relative quantities of each required. Of course one cannot find everything just as he would order it; but take as near a perfect pasture as he can find. In the early days of bee-keeping as a business in San Diego county, the ranches were established on the Sweetwater, a "California stream," which runs out east from just south of the town of San Diego, among the mountains. It is only within the past two years, or since the great excitement began, that other localities were sought for further north. At this writing nearly every location, good, bad or indifferent, has been settled on as far as Temecula, 75 miles north of San Diego, to which point all the products of the apiary have to be carried in wagons, and all supplies brought out, making it very expensive to carry on the business. The roads generally are good, but as all the mountain ranges tend from the seashore toward the southeast, it is easily seen that there are some heavy grades. All or nearly all the teams we meet in traveling are four or six-horse—two to draw the wagon, and the balance the load.

There are few "old settlers" except "greasers," or Indians and Mexicans. The former are half-civilized, dress like whites, live in adobe huts, and either herd their own flocks of cattle, sheep or horses, or else are herders for the Mexican stock men. Since the great rush and settlement in Los Angeles county, which lies next north of this, the larger portion of the sheep men have had to search other and less populated sections for their flocks.

Many thousands of sheep were driven into this county, where they are now overstocked, many herds decreasing in numbers from insufficient food or water. The price, too, this fall for the wool—9 cents or 10 cents—has disgusted many with the business.

Cattle and horses will not feed after sheep.

The stock men dislike to see new settlers come in, as the laws here require herding of stock or suits for damages. The "bee men," too, dislike to see stock around them, particularly sheep; for although they eat but sparingly of the white sage and other honey-producing plants, they break down the brittle stems, and soon wear out a fine field.

California is famed for its freedom from insect pests injurious to fruit. While that may be true, it nevertheless is quite true that a worm was found in nearly every white sage flower last spring, which will account for the rarity of pure white sage honey in market this year. This worm, with the April frost and extreme dryness of the season, cut off the crop of honey to an average of not over 25 lbs. per hive, and an increase of not over 25 per cent. Indeed, I know of one apiary of 250 stocks which gave but two swarms this whole year, and when I was there last—at the end of the busy season—the owners had taken but 99 cases of honey. One other apiary of 150 stands came out equally bad, and both did remarkably well last year. One apiary of 500 hives did not give a single pound of surplus. I have heard of but half a dozen or less in this whole county who have made enough to pay exyenses, counting the time and attention required as anything. One gentleman had 150 stands, hired an experienced apiarist at $45 per month and board. In return he got seven cases, or 400 lbs. of box-honey, and an increase by dividing of some 10 or twelve stands. There are many long faces among the bee men, and many a poor fellow would like to sell out and quit. I sincerely believe that for a man who understands the business, and whose heart is in the work, bee-keeping here will pay in the long run; still, I think some changes in the prevailing methods of gathering and marketing the products are necessary.

It seems that there has never been any effort made to save the large surplus of honey from the manzinita and blue sage, which bloom in January and April, because they do not produce quite so white a honey as the white sage, and yet many a hive at these times becomes too full of stores for the good of the colony.

At the time (May 20th to July 20th) when the white sage is in bloom, the sumac and grease-wood also yield fully as well. The color of the sumac honey is several shades darker than either of the others, so that it is rare to find sections filled exclusively of either sort.

Possibly the extractor will be reverted to, at least to give it a fair trial to know whether or not it will pay.

Those who are engaged in bee-keeping rarely do anything else, consequently each one has to watch carefully for the

best reward for his labor.

There are few cultivated farms in the county, which are as large as a good-sized State—the habitable portion being about 60 miles east and west, and 100 miles north and south. Take either of the two roads leading up north from San Diego, you may travel twenty miles and not see a cultivated field. It is a constant warfare to get and keep things growing. The gophers, ground squirrels (grey and but little smaller than the grey squirrel at the East) and kangaroo rats are omnipresent, eating the seeds or young plants as they appear. Dozens give up in despair of raising even their own vegetables on this account. Some of the land is *moist*, on which, if properly guarded, nearly everything will grow, and with marvelous rapidity. But such land is the exception, and wherever found in any considerable quantity, it is pretty sure to be covered by a grant, and consequently not to be settled on.

Very little rain falls from April to November—in fact but one shower has fallen since May 1st, and that wet the parched soil but from two to four inches, and was speedily dissipated under the succeeding days of sunshine.

I have not seen any estimate of the relative proportions of cultivable lands too worthless, but my judgment is that not one acre in fifty is good for any purpose of cultivation. The mountains and in fact almost the entire country is bare of trees. The extreme dryness of the climate producing only bushes of a stunted growth averaging five feet high, over tens of thousands of acres in one body.

The principal bush and at the same time, the most worthless for bees, is the chemise or chemisel—a harsh, rough bush from 4 to 6 feet high, through which it is impossible to go either on foot or horseback. The little forays occasionally made upon it only result in torn clothes, bleeding hands and bad tempers. Of course in such a country, from the great scarcity of timber, wood is high and not of good quality.

Such as is taken to market being either small limbs of an inch in diameter, or short, crooked, intractable sticks, which successfully resist the axe, but bring a good price in money. Of churches, there are several in San Diego—not one, to my knowledge, in the country outside the city, except Catholic, and the service in these is usually carried on in Spanish.

There are a few school-houses, but the people live so far apart that the children cannot attend. It is twelve miles from where I am located to the nearest school-house, or any other public building.

As a consequence, the children must be taught by their parents, or allowed to grow up in ignorance.

The idea seems to prevail that all are here temporarily—that as soon as enough is made to live on elsewhere to pick up and leave.

Physicians are rare outside the town of San Diego—and when called upon to go out 20 to 50 miles to attend a case, their charges are simply extortionate. I recall one case of a charge of $1,000 for going 50 miles.

It is all very well for people at the East to keep bees, where they are surrounded by the comforts and amenities of life—they *ought* to have some drawbacks, for on coming here, one abjures comfort, society—*everything*.

To place a man alone on a bee-ranch for a year, he is a fit subject for a lunatic asylum—the solitude is terrible. The oppressive silence of these canyons and mountains with no trees through which the light winds can sigh; the nearly entire absence of birds of song to gladden the heart; the distance to neighbors, all contribute towards the feelings one might have in solitary confinement.

Coming to California, you give up forever all your old associations and enter a new world. The trees, the flowers, the birds, the climate, the soil, the sky—all differ from what one has been accustomed to from childhood.

It is true they call many trees, bushes and birds here by the same names they do at the East, but you fail to recognize them, and soon come to the wise conclusion to accept everything as strange.

While the farmer has so many difficulties in the way of getting crops to grow, all is not plain sailing for the apiarist. The moth miller has twelve months in a year here to work. Skunks and ants abound.

A skunk will get up in front of a hive and tap on the front of it until enough bees come out and get entangled in his hair for a meal, when he will roll over and over until the poor bees are crushed or stunned, and then he will eat them. Poison, or traps, have to be regularly inserted to keep them from despoiling an apiary.

Of ants there are many kinds; from the wee red one of one-sixteenth of an inch in length to those of an inch or more.

On account of these legions of ants, they have to make stands for their hives to set on, and keep the legs greased with coal-oil or axle-grease, or any other nauseous thing to repel them. Houses intended for honey have to be set "on stilts," which are kept greased to keep out the pests. This is really the plague of the country; and any man who will invent an "Ant Destroyer," sure to kill or drive them away, can come here and make a small fortune selling it.

The water is generally good, though hard, and is usually found at less than 30

feet in depth. I do not know of any artesian well in the county, but would suppose they would be tried, to avoid the great loss of crops during the long seasons of drouth.

In the town of San Diego, the water is not good, but such as it is, is sold at the rate of three cents a bucketfull.

The Water Company is now trying to remedy this by pumping water from the bed of the river of the same name. Nearly all the water we get from wells is warmer than the outside air, when first drawn, so that you have to let it stand and cool. Ice is out of the question. A little is brought down from somewhere up towards the North Pole, and sold at 5 cents a pound.

Those of us who keep horses, usualiy have to buy hay for them or submit to their getting too poor to do any work during the long dry seasons.

Hay in this country is not the hay of the Eastern States. It is wheat, barley, or oat straw, cut while yet green.

This is often hauled 15 to 30 miles, as it is only at rare intervals that any is grown.

The seasons here are two—the wet and the dry. The former extending from December to March, during which time, rain usually falls in sufficient quantities to overfiow the sand in the beds of the streams, and even create a torrent through which, over the treacherous quicksands of the streams it is dangerous to cross. Some of the streams are bridged, and few have steep banks where the roads cross them. At this season of the year, the real summer in California, the countiy gets green and is beautified with flowers.

With the advent of March, the ground dries up, vegetation dies, and by the first of May, the country looks parched and brown. From this time on to December, the same state exists, with nearly the same temperature.

The climate, meantime, is superb. Nothing any of us have ever been accustomed to will equal it. And this one thing, *climate*, is the great charm of the country. I have not heard it thunder but once in six months, and that was a weak roll. Neither have I felt any strong wind during the same time.

The nights are invariably calm, or with the gentlest of low breezes wafting the deliciously soft air across the sea. The early mornings are often foggy and nearly calm until 9 or 10 A. M., during which time, if it chance to be clear, is the hottest part of the day. Then the sea breeze springs up, gently at first, increasing to a fair breeze by 1 or 2 P. M., and then dies down again—and thus will go the rounds—the same thing day after day, weeek after week, and month after month.

G. F. MERRIAM.

San Diego, Cal.

For the American Bee Journal.

Undesired Experience.

All that may be known of bee-culture we have aspired to know; but we have by no means aspired to obtain all our knowledge experimentally. To verify in our own little apiary what we learned from Langstroth or Quinby, or from the experienced brethren who teach in our BEE JOURNAL, might, indeed, be delightful; but only within certain well-defined limits. For there are heights—or rather depths—of experience concerning which we listened, sometimes with sympathetic interest, sometimes with shuddering wonder and awe—but with never the slightest desire to tread such slippery paths for ourselves. Afflictions like these, we said, belong to apiarists who count their stocks by fifties and hundreds; not to bee-keepers so small as we—bee-keepers who are able to cultivate an intimate acquaintance with each of their queens, and cherish a particular affection for every colony in their possession.

But alas! one by one, all the trials we thought to escape have come upon us; the elopement of swarms; the death of queens beloved; the loss of quarts of bees (though not, *as yet*, a whole colony) by disease in winter, with all the heart-sickening alternations of hope and despair attendant thereupon; and, finally, most dreaded calamity of all—foul brood! It is of this last misfortune we write.

Early in the summer of 1874, a pair of wrens with whom we were on friendly and intimate terms, became the prey of our cat, Zebulon. This event concerned us more deeply than the reader may suppose. It was not only that we mourned the sad fate of our little tenants and friends, but there was thrown upon us the grave responsibility of caring for a nest-full of orphaned brood. Six little clamorous mouths called imperatively, and almost incessantly, for food. We had watched the old birds closely enough to learn that crickets were at this time their chief dependence. So, morning, noon and night—or, rather, every hour in the day—we went forth in quest of crickets.

We learned to seek them in their lurking places, beneath the dead bark of the old stumps, and—after a time—we learned how to catch them when found. But, with our utmost endeavors, we could not capture crickets so fast as our proteges could dispose of them.

What with our neglected household duties, our neglected work in the apiary, and the constant pitiful pleadings of our little birds for "more crickets," we were fast becoming fit inmates for a lunatic asylum when a bright thought occurred to us—why not feed them on drone larvæ?

The experiment was tried, and succeeded admirably. Hive after hive was deprived of all drone larvæ of proper age, for our purpose. (Though, beyond this point, the history of our wrens has no relation to my subject, I will briefly furnish their story. We succeeded in raising three of the six. As they grew in size and strength they grew shy and wild, and when, at last, we ventured to set them free, to care for themselves, they seemed most ungratefully willing to leave us, while we, it must be confessed, were only too glad to see them go.)

While foraging for supplies in behalf of our wrens, and solely in consequence of this search, we discovered what first awakened our apprehensions with regard to foul brood. It was only a few cells of dead larvæ in a single comb—which comb we promptly destroyed. This idea of foul brood was at once suggested, and though we refused to entertain it, we did not delay to carefully examine the brood in each of our seven colonies, while, for some little time, the suspected colony was subjected to the closest scrutiny. But nothing came of it, and we laughed over our false alarm. Nevertheless its effects remained. We were more watchful and suspicious of evil thereafter, and to this alone we attribute the fact that we subsequently succeeded in discovering the disease before it had made much progress. A cell of suspicious aspect always attracted, and always received attention.

From my Bee-Record, for the same summer, I quote as follows:

Aug. 12.—Noticed, to-day, in a comb at No. 7, a cell with a somewhat discolored and depressed cap. Removing it, found, to my dismay, a dead larvæ in quite an advanced stage of decomposition. Proceeding to uncap other cells, found, scattered among healthy brood, thirty or forty dead drone larvæ. In the worst cases they were of a lead color, soft, and slightly offensive to the smell—the odor being sour rather than putrid. Noticed no perforations in the caps. They were usually slightly depressed. On another comb, found two dead worker larvæ. Could find nothing more, but as the hive contains a large amount of brood, and is overflowing with bees, examination was unsatisfactory. I carefully cut out the two dead larvæ from one comb, and destroyed the comb containing thirty or more. Removed the queen and contracted the hive entrance. Fortunately, there is little or no robbing these days. * *

We were now seriously alarmed,—though by no means ready to conclude that this was foul brood. We attached great weight to the fact that we had found no perforations in the caps. A second examination was made at the time the young queen began to lay—the combs being then nearly empty of brood. Finding nothing wrong, we gave the bees the benefit of our doubt, and allowed brood-rearing to continue. Repeated examinations disclosed only healthy brood, here and elsewhere, during the remainder of the season.

We concluded, Nellie and I, that *dead* brood might not, of necessity, imply *foul* brood. We congratulated ourselves that we had dared to disregard the advice of Mr. Quinby—"should a dozen or two such" viz., dead larvæ, "be found, the stock should be condemned at once, and all the bees driven into an empty hive." (See Mysteries of Bee-keeping, page 219.) For by thus doing had we not saved nine beautiful straight worker combs? We were very cautious, however, not to exchange combs from this hive with others—a caution which we remembered to observe at the beginning of the next season—last spring.

But for the past season's experiences we shall need another chapter.

CYULA LINSWICK.

Meeting of Mississippi Valley Bee-Keepers' Association.

In response to a call issued some time ago from the State Board of Agriculture, a number of gentlemen interested in the culture of bees assembled yesterday afternoon in the room of the Board, to effect a permanent organization. The following gentlemen were present: Hon. Norman J. Colman, Hon. John Monteith, E. A. Riehl, of Alton; J. T. Colman, L. C. Waite, Esq., T. W. Guy, of Kimmswick, W. G. Smith, Prof. Riley, Hon. Josiah Tilden, of Jasper county, and Mr. J. R. Cordell.

Upon motion of Col. Colman, Mr. E. A. Riehl, of Alton, Ill., was elected chairman, and Hon. John Monteith, secretary.

Col. Colman stated that he had been spoken to by several gentlemen, not present, with reference to calling this meeting. Had seconded their efforts. Bee-keeping is a very important industry and ought to be fostered as much as any other industry of the nation. Here in the heart of the Mississippi Valley an organization of bee-culturists ought to exist. In other parts of the country such organizations have long existed. In the West old fogy ideas still prevailed, and people seemed to think that the best hive in the world was still the beegum or hollow log. The speaker thought a permanent organization should be effected.

Mr. Waite said that a State Bee Keepers' Association had already been organized, but for the past three or four years nothing had been done. There were perhaps twenty-five or thirty members. This association had been in the habit of meeting in this city during Fair week.

The meetings had always been very interesting, and were largely attended. Mr. Waite thought it would be a good idea to revive this association.

Col. Colman asked if Mr. Waite thought October the best time for holding such annual meeting. Mr. Waite thought so from the fact that there were so many farmers in the city at that time.

The chairman differed from Mr. Waite. When people came to the Fair they didn't come to attend horticultural meetings or meetings of any kind.

Mr. Guy, of Jefferson Co., did not believe in the feasibility of reviving the old society. New men could organize much better than revive an association. The speaker was also in favor of holding the annual meetings at some other time than during Fair week.

Mr. W. G. Smith offered the following resolution, which was adopted:

Resolved, That this meeting now proceed to organize an Association to be known as the Mississippi Valley Bee Keepers' Association, and that we proceed to the election of a President, Vice-President, Secretary and Treasurer, who shall hold their office for one year, and until their successors are duly elected and qualified.

In accordance with this resolution the following officers were elected for the ensuing year:

President—Norman J. Colman; Vice-President—E. A. Riehl; Secretary—W. G. Smith; Treasurer—L. C. Waite.

Upon motion of Mr. Guy, the officers were constituted a committee to draft a constitution, to be published as soon as prepared.

Upon motion of Mr. Smith, it was decided that when the association adjourns, it adjourn to the first Tuesday in April.

Free discussion being now in order, Mr. Riehl gave a brief narration of his experience in bee-keeping for the past year. He kept twenty-five or thirty hives. Tried to prevent swarming as much as possible. The past season has been unfavorable to bee-culture. He thought the extractor prevented swarming. Of course he clipped one wing of the queen, and this was a great preventive.

Mr. Smith said his experience with bees had been merely experimental. He used the Longstroth hive, so arranged as to use either story, sometimes one story at the top and again the other. In artificial swarming he left it as near as possible to nature. The past season had been a favorable one to bee-culture in St. Louis county.

Mr. Waite said that the past year had been a most prosperous one in this locality, as well as some distance south of here. There was no doubt that in keeping bees, frames of some kind should be used in the hives. Keeping bees meant hard work. He favored Italian bees. Had kept, some seasons, 150 stems of bees. He instanced, in arguing, that bee culture would pay, that he had had one hive that put up 250 lbs. of honey in one season. Mr. Waite recommended the Queen hive as the best for all purposes. He had been keeping bees fifteen years: knew, that properly attended to, they would pay at least one hundred per cent. The fault seemed to be that farmers were too apt to neglect their bees.

Mr. J. T. Colman said he had noticed his bees during the past week lighting upon the buds of the maples.

Col. Colman said he had kept bees for twenty-five years. He thought the secret of success in their cultivation was to keep the swarms strong. He said he was a convert to the movable-frame hive, for the bees could be then handled like stock of any kind. Hives can be equalized and saved by its use. He preferred the Queen hive. He explained in detail the advantages offered in the Queen hive. In concluding his remarks, Col. Colman congratulated the Association upon their organization, and pledged himself to do all in his power to further their interest.

Mr. Guy objected to the use of smoke about the hives: he recommended to those fearful of being stung, a fine wire mask and rubber gloves.

Mr. Smith thought there were times when smoke was absolutely required.

Col. Colman said he had found honey an excellent remedy for chills.

Mr. Smith referred to the vast quantities of adulterated honey on the market, and this called out a random and desultory discussion upon the subject. It was the sense of the Association to procure the passage of a law rigorously punishing all persons guilty of manufacturing and vending adulterated honey.

Mr. Tilden, of Jasper county, having come in after the meeting had advanced somewhat, was called upon to state somewhat of the progress of bee-culture in his section of the State. He briefly stated that in the remote past, apiaries had not done well in Jasper county, but during the past year bee-culture had met with gratifying results.

There ensued a brisk discussion upon the proper construction of hives, participated in by Messrs. Cordell, Smith, Colman and Monteith. There was considerable difference of opinion. Mr. Riehl took the President to task for having said that the culture of bees was an easy task and could be safely entrusted to children.

Col. Colman said Mr. Reihl had misrepresented him. He (Colman) had said that to insure success in bee keeping, the utmost care and unremitting labor were necessary. He had said and still contended that women and children were just as

well qualified to take care of the apiary. Col. Colman then proceeded to inject a female suffrage stump speech into the belly of his argument.

Mr. Monteith congratulated Col. Colman upon the stand he had just taken upon the woman question. He doubted not that woman had the potentiality in her for doing the work referred to. So far as the speaker's experience was concerned, he had found the women well qualified for the conduct of bee culture, as soon as they could overcome their timidity.

Mr. Reihl desired to set himself right with Col. Colman. He had misunderstood the gentleman. However, he still insisted that the culture of bees necessitated hard work.

Prof. Riley asked the following questions: Do the bees make or gather honey? Does the queen bee meet with the drone a second time? Would the gentlemen present, when they come upon white bees, please preserve them for the speaker?

Mr. Waite was positive that bees gathered honey. He had fed his bees on syrups and found that they deposited the syrup unchanged in the hives again; the honey, all knew, was frequently flavored with buckwheat, etc., etc.

Prof. Riley disagreed with Mr. Waite. He was satisfied bees made honey, otherwise man could manufacture honey as well as bees.

The Secretary and Treasurer were instructed to solicit essays upon practical subjects to be read at the next meeting.

Prof. Riley consented to speak upon the subject of "Do bees injure fruit," illustrating his remarks by diagrams.

The meeting then adjourned to the 4th of April, at 10 o'clock, A. M.

For the American Bee Journal.

"Whom the Gods would Destroy, they first make Mad."

MR. EDITOR:—Having good reason to believe that the columns of the "Old Reliable" are open even to the "heretics and infidels," and having received letters from bee-keepers asking me why I do not defend myself, I will, with your permission, answer a few of the charges brought by Bros. King and Slocum. While I recognize the fact that "jangling" is neither wise nor profitable to any concerned, still it *does* seem as though a few "remarks back" were at this time called for. What intelligent apiarist can imagine for one moment that he alone is "going to so reduce the number of bee-keepers, as to secure fabulous prices for his honey?" Supply and demand, cast off production, etc., will attend to that. Put truth and error together and agitate them, and "truth will ever come uppermost, and ever will justice be done," as long as production of honey costs as much as at present. We *do* hope to command more "fabulous prices" than those I quoted in our last convention.

I would ask Messrs. King and Slocum if they would be benefited if each honey producer would sell each of his three nearest neighbors one-fourth of his apiary?

This question answers itself. Would it be to the apiarist's interest to do so? (So does this one.) Again, would they like an apiary on every square mile in America? Honey producers, would we? *Why* did the California bee-keepers petition Congress to grant them each a large area of land? *We* petition all men and women to show up both sides of the subject when they write or talk upon bee-keeping, even if their wares do go off slower.

"To be successful one must keep large apiaries," etc.

Who *are* the "successful" ones? Whose pictures are centrally located in Root's Medley?

Have these men succeeded?

Do they "keep *large* apiaries"?

"This branch of industry has been neglected." "Thousands of pounds of honey are yearly going to waste." Thousands of pounds of tannin goes to waste during the clearing of our oak forests, and probably always will, so long as the drug stores are well filled, and the cost of gathering it twice exceeds the market price.

The difference between "agriculture, stock raising, etc.," and bee-keeping, is that stock and grain gain their sustenance from the land *their* owner owns. But no more so with bees than with the fisherman, berry-picker or merchant. What farmer cares how much his neighbor produces. What salesman does *not* care how many "opposition stores" set up in his town? Oh? we are different from other folks—we *raise* queen cages, tin corners, kettle feeders, $5 bee hives and big stories, for sale. ("Send stamp for circular.") "English Journals have no paid contributors." That is nice.

We too will give away to every one who may happen to open a book, our best, hard-earned discoveries, if they will in turn support us in luxury, as they do in England. If farmers only *could* raise honey for 11½ cents per lb. at retail, what a nice thing it *would* be, wouldn't it?

But here again the laws of nature say "no."

"Mixed farming" is becoming *less* and *less* the order of the day in this section.

Whether I loaded my gun heavy or light, it seems that I made the fur fly, if I *didn't* kill out-right.

I do not know what K. and S. mean by "progressive bee-keepers," unless it be those who have "progressed" out of real

production into the more ethereal realms of salaried situations ("*please* send in money to pay expenses"). If I have insulted any one, wouldn't it be better if K. and S. would not repeat the insult by telling them of it, as though they would not find if out alone? From the tone of letters I have received and the conversation of all I have talked with upon this subject, I am not afraid of any "contempt," except from contemptible sources. Now Bros. King and Slocum, don't begin to "cuddle" up to Gleanings so soon; *all* the attaches to apiculture are not going back on you. Only the few who are trying to support their families by the production of honey and bees, are going to wake up to their interests, as the Californians have done, and help to skim off the froth and get at the real substance of the pursuit. All those fellows who form a double-line gauntlet, which nearly every one of us have run, and been bled thereby, will stick to you as long as you will float them by advertising their wares and capturing new victims for them.

No matter how much money may be made in vending worthless apiarian supplies at high, unreasonable prices, if there is not a living to be found in the real production of honey and bees, I, for one, am ready to break ranks and seek some other way of bettering the condition of my family and the world. We expect many who have no adaptability to apiculture, and who have been led to its adoption by one-sided reports, "garbling," etc., together with the big delusive stories told by supply venders, will noiselessly drop out of the business, while new ones will embark in it.

What we want is "free and accepted" bee-keepers, and honesty follows. Those who have carefully weighed both sides, and whose natural adaptability to the business, tells them to stem the current. To such, and all honey producers, do we extend the right hand of fellowship. If all those who have lost, and given up in disgust, would SPEAK OUT, the clamorers would drown the hum of all the bees in the world. We want a Bee Journal. One will do—one not run to the interest of hives or other fixtures — one that welcomes every new comer as one of our little squad slowly trudging up the hill, but seeks to proselyte none—ONE DEVOTED TO THE INTEREST OF THE HONEY PRODUCERS OF AMERICA. JAS. HEDDON.

Dowagiac, Mich., Feb. 5, 1876.

Mr. Walker, a Cincinnati scientist, has allowed himself to be stung once a day for three weeks by bees, to ascertain the effect. He says that after about the tenth time the pain and the swelling were slight, the body seeming to become inoculated with the poison.

For the American Bee Journal.

Economize their Labors.

MR. EDITOR:—No doubt but thousands are situated like myself in respect to bee-pasturage. We have white clover in abundance, but little basswood. We have also a pretty good fall pasture. What honey we get comes in flirts, and is of short duration.

And now comes the question: How shall we work our bees so as to take advantage of their labors? If we build up powerful colonies, either natural or artificial, by the time we get them well started to work in boxes, they send out swarms, and our nice calculation is spoiled. Messrs. Langstroth and Quinby tell us, and all experience corroborates the truth they state, namely, that newly hived swarms work with more energy than old stocks, and will accumulate stores much faster. Now if this be a fact, shall we not take advantage of their labors and have them store their honey for us in nice neat glass boxes or small frames for market, instead of having them filling new hives with brood combs? I have been testing a plan, more or less for two seasons, and am very much pleased with it, and will hereafter work my entire apiary upon it. I like it, first, because I can run my apiary of sixty colonies with but a small increase of stocks, no matter how much they may be disposed to swarm; and, secondly, because I get a great deal more honey and in better shape.

I will now give a description of the plan. For example, I have 60 swarms to commence the season with. I shall work 40 for box or small frame honey, as comb-honey is our hobby; in 20 swarms I want to build combs and furnish brood. The brood I want to keep up the strength of honey-storing stocks. Now, then, natural swarming is what I practice, as it's the only plan that will succeed this way. As soon as a swarm is on the wing I take from *a b c d* of my reserved stocks and fill the hive to be used, all but one or two combs; allowing them to build them in the center; all those combs must be well filled with hatching brood. Now cover the entire top with boxes or frames and hive your swarms, then compel them to go into the boxes, as all below is full and every day those stocks are growing stronger, from hatching brood. Such swarms are very strong and must be well ventilated by raising the hive up, so as to make a passage for bees all around. If honey is plenty boxes will be filled in 6 or 8 days, but of course this time will depend on the flow of honey, but in the course of twenty days you must overhaul these swarms, remove all frames from hives that are nearly filled with honey, and fill in with hatching brood to keep up

the strength of stock. But some judgment must be used not to crowd the queen too hard for room to deposit more or less eggs, or she will go above to surplus boxes. Some one will want to know if we can keep such stocks from swarming. We answer, no; if the season is a good one for honey, you will get a swarm from them about the first of August, but not till they have filled two or more sets of boxes, and if they do swarm we will find some place for them to fill some more boxes, as we can unite them to any swarm in the yard that has room for them.

We now propose to consider how much increase is wanted, and if but a small number is needed, and surplus is the object, we shall proceed as follows: From seven to eight days (and here let me say that date of swarming should be made on each hive) will be the right time. There are now no eggs or larvæ for the bees to construct queen cells from; overhaul any such stock; shake off all the bees, cut out every queen cell —be sure you get every one, for this is important; now remove all combs from the hive that contains the most honey, fill in with capped brood, put on your boxes, and run into this hive a big swarm. Do it in this way: Hive your swarm to be united and set it close to the one to be run into; leave it till nearly dark, then raise hive one inch in front on blocks, bring on your platform and shake down swarm eighteen or twenty inches in front; they will travel in just like any other swarm, and your job is done. Now we have a stock stronger than it was before, casting its swarm. Now, if the flowers are yielding honey, you will get some. Follow up this plan until you have returned a big swarm to each hive. But should swarming continue you may have to make some more new swarms.

What shall we do with the combs that are removed from time to time containing honey? Extract and give to your brood stock, or keep them in reserve, as they may be wanted later in the season. Suppose I should hive ten or fifteen swarms in August, and I have but two empty hives, I will use them and return all the rest, after removing all queen cells; but do not run a swarm back to its own hive, as in many cases it does not satisfy them, and often comes out again.

Some may be disposed to inquire what is gained by this method. We answer, first, that we have but a very small amount of drone comb built, as all our brood stocks built worker combs; and secondly, that our stocks are all very strong, and all receptacles are filled very quickly, so that the honey has a much cleaner and finer appearance. And lastly, we are satisfied that a much larger amount of surplus is the result.

Another plan given by us can be found in February number of the AMERICAN BEE JOURNAL for 1872. On doubling stocks we still practice this plan more or less, and have found nothing better. On this plan we have more than trebled on our surplus.

We have united hundreds of swarms in this way, and in but a very few cases had to resort to scenting them with peppermint or anything else.

In conclusion, we sometimes think it would be better if writers would say more on the subject of "Honey, and how to obtain it," not extracted alone, but nice comb honey; but few articles appear directly on this one subject, the most important of all. I confess I keep bees for one object and no other—dollars and cents.

J. BUTLER.

Jackson, Mich., Feb. 3, 1876.

For the American Bee Journal.

How to Make It.

INSTRUCTIONS FOR MAKING THE STAR MOVABLE COMB BEE HIVE.

As I have been using the Star Bee Hive for some time, and as it is very simple and easily constructed and gives very satisfactory results in yield of honey and increase of stocks, and combines all the good points necessary in a bee hive, and leaves out all the bad points, useless appendages, etc., I will endeavor to give instructions for making it. For the body of the hive take two boards, 15¼ inches long and 11½ in. wide for the ends, and two boards 18 inches long and 11½ inches wide for the sides; the latter to be rabbited one-half inch wide and one-half inch deep; and if a deeper rabbit is desired, the boards must be as much wider as the rabbits are deeper. Then nail these boards up solid with several nails at each corner, letting the side boards in a little at the top, just so the top bar of a frame will fit in a littte loose; this will make the body of the hive a little wider at the bottom than it is at the top, so that if any frame is a little out of square, the bottom corner will not be so apt to touch the side of the hive and be glued fast. The bottom board should be 15¼ inches wide and 30 inches long, and should be nailed on tight, letting it be even with the back end of the hive and projecting ten inches in front of the hive for a lighting board. The entrance should be one-fourth inch high and about four or five inches long. Ventilation should be made by boring a number of one-inch holes in the front end boards and kept closed up tight, except when it is necessary to open them, or a part of them, to prevent the bees clustering on the outside of the hives in hot weather. The cap should be about two or three inches high, and large

enough to fit down over the body of the hive and rest on strips about one inch square, nailed on the body about three-fourths of an inch below the top. The lid to the cap should be about 18 inches wide and three or four inches longer than the cap, and let it project equally at both ends. This hive can be made of green lumber, just as well as dry, by allowing enough for shrinkage, except top and bottom boards, which must be dry.

A board should be laid on top of the cap to prevent the sun checking the lid. The quilt should be about 23 or 24 inches long and about 18 or 19 inches wide, and should be laid over the frames, under the cap. The upper story is made just like the lower one, but without bottom board or entrance. The upper story can be used for a set of frame or honey boxes. If used for boxes, a strip ¼ inch thick and 1½ inches wide should be laid across each end of the frames and along each outside frame in the lower story for the boxes to rest on and to prevent the bees getting up outside the boxes.

I sometimes use a long hive, holding 20 combs instead of a two-story hive, for surplus honey in the combs, or for the extractor. The frames are constructed of five pieces: One top bar, 1 by ¼ inch and 14 inches long. One bottom bar ½ by ¼ inch and 12⅓ inches long. One guide bar ½ by ¼ inch and 12 inches long, and two side bars 1 by ¼ inch and 10 inches long.

To nail a frame together, first take two side bars and drive a nail through each one, ¼ inch from the end, and into the ends of the guide-bar. Second, nail on the bottom bar. Third, nail on the top bar with four nails, driving them through and into the top ends of the side bars. Thus you have a light and durable frame, 12 inches wide and 10 inches deep in the clear, with the exception of the little space occupied by the guide bar. This guide bar is just as good, in every respect, as if brought down to a sharp edge. It also acts as a brace to the frame. For these frames I use ¾ inch finishing nails. As lightness in frames is very desirable, especially in surplus combs for market, the frame is much preferable to some, I have seen in use with timber enough in the top bar to make the whole frame. I order my frame bare sawed at a planing mill or sash factory, from straight grained pine lumber. They cost me 30 cents a hundred. I think this size and shape of frame is as good as any for all uses. For a one story-hive, exclusively, I think I would prefer a frame two inches deeper; but for two stories that would be objectionable, as it would be too far for the bees to travel to get to the top of the upper story. I use 12 frames in a hive, 18 inches long.

S. K. MARSH.

Sixth Annual Convention of the North-Eastern Bee-Keepers' Association.

The Northeastern Bee-Keepers' Association was organized to promote the scientific culture of bees, by means of the mutual interchange of views and by co-operative experimental investigation. Its members consist of prominent apiarists in New England and the State of New York. According to announcement, the society met at Stanwix Hall, Rome, N. Y., Feb. 2, 1876. Notwithstanding the inclement weather, the attendance was large. The meeting was called to order at 2 P. M. by the president, Capt. J. E. Hetherington, of Cherry Valley. The Secretary, J. H. Nellis, of Canajoharie, read the minutes of the last meeting, which were duly approved.

The Treasurer not having arrived, his report was deferred.

The committee appointed at the last meeting to provide for a suitable representation of the bee industry at the Centennial Exposition, presented a report of progress, and further time was granted, during which a plan will be perfected.

The committee whose duty it was to present a bill to the State legislature, for the prevention of adulteration of honey, reported that for several good reasons, which had not been properly weighed at the convention, the committee concluded not to act.

The President's address was then heard. The president paid an eloquent tribute to the memory of Moses Quinby of St. Johnsville, whose labors in the promotion of advanced agriculture, and especially in the field of bee-culture, made him famous. He further criticised the practice of exaggerating the profits of this business and ignoring the failures and unprofitable seasons. Four out of five who enter the business fail because they are not adapted to it. The chief need now is a greater knowledge of wintering, and scientific observation. A vote of thanks was tendered the president for his able address.

(Will forward the President's address soon.)

A number of members were enrolled, after which balloting for officers was in order.

Capt. Hetherington was unanimously re-elected, but positively declined on account of private duties.

Balloting then progressed, with the following results: President, Reuben Bacon, of Verona; Vice-President, I. L. Scofield, of Chenango Bridge; Secretary, J. H. Nellis, of Canajoharie; Treasurer, L. C. Root, of Mohawk; Honorary Vice-Presidents, N. N. Betsinger, Onondaga county; C. R. Isham, Wyoming county; W. E. Clark, Oneida county; and G. M. Doolittle, Onondaga county.

The correspondence of the Association

was then read. An article prepared for this Association, by Dr. W. B. Rush, and published in the December number of the AMERICAN BEE JOURNAL, was read.

INTRODUCING QUEENS.

The Secretary then read a paper upon this topic, by Charles Dadant, of Hamilton, Ill. His paper was as follows:

Since it is now proved that bees, like the other animals of the farm, can be improved by importing foreign breeds, the question, "how to introduce queens safely," arises, and becomes an indispensable knowledge to bee-keepers. Many a good and costly queen has been lost or impaired, by lack of experience, in introducing. It is to guard some novice bee-keepers against such losses, that I will try to give my experience on this topic. The introducing of queens when they arrive from Italy, presents more difficulty than in all other circumstances. The queens, at their arrival, have been for three to five weeks confined in their small boxes, with bodies of worker bees that died with dysentery. Some of these bodies are rotten; often some are mouldy; the honey sometimes begins to sour, or it is of inferior grade, gathered from heath or chestnut, or from some other plant giving honey of bad smell. The queens become thoroughly impregnated with these unpleasant odors. No wonder if the bees, which are so clean in their habits, whose hives smell so good, are ill-disposed to accept these foreigners, in place of their beloved mothers. Yet, by complying with the instincts of the bees, we have succeeded in introducing our imported queens, with nearly as much sucess as with our home-bred queens, our losses not having exceeded five or six, on about 150 imported queens, introduced in our apiary last season. No doubt a loss amounting to four per cent. will seem to the experienced bee-keeper, heavier than the regular percentage of the losses in introducing home-bred queens. But we have to remember that some of these queens died from disease caused by the fatigue of their long journey.

An indispensable precaution is to introduce the queen, as soon as the queen to be replaced has been taken from among the bees. If the bees hunt, during a few hours, for their queen, without finding her, it often happens that some worker-bees are so anxious to have the queen replaced, as to raise queen-cells. In such cases the safe introduction of the queen is doubtful. Sometimes the queen will be tolerated at first; but the bees will raise a queen of their own, and afterwards a few bees will swarm with the foreign queen, if the weather is convenient, or the queen will be ill-used by the bees, maimed, even killed, if the colony is too feeble to swarm, or if the weather is unfavorable for swarming. To cage in her hive for some hours, the queen to be replaced, can give the same bad results. But if you take the queen out of the hive, putting the foreign queen in the hive before the bees have remarked their absence, they will be unable to know the change, and your queen will have best chances of being well received.

It is sometimes possible to let the queen go directly among the bees without any precaution, but as in so doing, the most experienced can meet with no success, it is more prudent to use some precautions, especially for costly queens. For years we have introduced queens with water scented with peppermint. A few losses have deterred us from this *modus operandi*. This method is always successful with us in the honey season, if bees, combs, and hives have been well soaked with scented water; but in times of scarcity of honey in the fields, it results, sometimes, in losses, and according to my experience, it is to the presence of robbers in the hive that such losses ought to be attributed. It is impossible, in time of scarcity, to have a hive open for a few minutes, without being surrounded with robbers, especially if there are some sweets to be gathered. To scent all the bees, the combs, and the inside of the hive, it is necessary to put all out of the hive. The robbers are few at first, but they have all the time necessary to return to their hives, and to bring with them their comrades before the hive is closed and the tranquility restored. As soon as the scented bees recover from their trouble, they fight the robbers, and, too often they mistake the new queen for a robber, and kill her.

Whatever be the method used to introduce queens, the greatest care should be taken to prevent robbers from entering the hive at the time the queen is liberated. The necessary precautions are, therefore: First, to avoid letting the bees know that their queen is gone; Second, to use some stratagem to let the bees believe that the queen introduced, is their own queen; Third, to avoid the invasion of the hive by robbers when the queen is liberated. To fulfill these conditions, we search for the queen to be replaced, and as soon as she is removed, we put the queen to be introduced, in a cage, between two combs, directly above the brood, taking care to put her cage against some sealed honey so as to give her a chance of eating, in case that the bees would forget to nurse her. Then we close the hive, taking care to diminish the entrance, so as to help the bees against robbers. From 36 to 48 hours after, we open the hive, and, without removing the cage, we take out one of its stoppers and put in its place a small piece of comb-honey; then we close the hive. Our cages are made with a small piece of wire cloth, eight meshes to the inch, rolled on a bit of broom handle, with two bits of corn-cobs for stoppers. When liberating the queens, we act as quietly and as quickly as possible, so as to disturb the bees the least possible, and to give the robbers the least opportunity for entering the hive. While the bees gnaw the combs, the tranquility is restored in the hive, and the queen walks quietly among the bees. As the queen, after such a trial, can be easily frightened, it is prudent to leave her undisturbed for several days. Usually, we do not look at our introduced queens before six or seven days after they are liberated. We can then ascertain whether they are laying, and see if the bees have built queen-cells. I know of a good many valuable queens being killed by the bees by the fault of their owners, who were too earnest to see if their queens had been accepted by the bees.

A general and untechnical paper by Herbert A. Burch, of South Haven, Mich., was then read by the secretary.

(This paper will be forwarded in a short time.) Votes of thanks were tendered the authors of these papers by the convention, and they were ordered enrolled as honorary members.

Various questions were presented, and a "Question Drawer" was proposed.

The following gentlemen were chosen to answer the questions presented, with the understanding that upon difference of opinion existing among members of the Association, the question might be discussed:

The committee were P. H. Elwood, T. L. Scofield, G. M. Doolittle.

A committee to draft resolutions upon the death of Mr. Quinby was appointed, consisting of E. W. Alexander, J. H. Nellis, P. H. Elwood.

The Association then adjourned to Thursday morning at 9 o'clock.

During the evening an informal social session was held. Mr. Scofield, Vice-President, occupied the chair in the evening, when a free and easy conversation all around followed. The question of whether it is profitable to insert extra uncapped comb-honey in the center of the hive to incite breeding, was raised. There was a difference of opinion. Some favored the insertion of clean, empty comb, as this might be useful to the

queen, which is not the case with comb containing honey. It requires time for the bees to remove honey from the comb; time to insert the comb, and is an interruption to the operations of the queen. No one favored wholesale feeding, and few favored feeding at all for the purpose of stimulating brood raising.

Mr. Elwood would not feed liquid sweets to induce breeding, when the bees have sufficient stores in the hive.

If bees are short of honey in the spring, Mr. Doolittle would advise feeding the honey all at once, instead of a little daily.

Capt. Hetherington would feed rye meal in the spring, before pollen appears, for the purpose of inducing breeding. Use rye meal mixed with saw-dust to prevent their smothering in it. Such feed should not be placed far away, as it is desirable to keep the bees near the hive until all fear of cold weather is passed.

Mr. Betsinger thought that to feed anything before the 1st to 10th of May is a disadvantage, as it induces bees to stray away and perish. He is never troubled for want of pollen. He would like to exchange it for empty comb. In some localities pollen does not seem to be so plenty. Mr. Betsinger would give $10.00 for some plan to successfully extract pollen. He loses wax in getting rid of it.

Mr. Doolittle found that the excess of pollen comes from hard maple and wild grape blossoms. As white clover is not plenty in his locality, the bees get honey very slowly from it, so that they strain the comb by running over it. Where clover is plenty, no such trouble is experienced. He considers the bass-wood the great honey producer. It remains in blossom from three to twenty-one days. It is *the* honey tree—a cluster of blossoms sometimes contains one or two drops of visible honey.

Capt. Hetherington and Mr. Scofield expressed the opinion that cool nights are unfavorable for the development of honey in blossoms. Hence last season was a bad one. They notice that they get a good yield of clover honey when the clover seeds well, and of buckwheat honey when farmers have a good crop.

Mr. Betsinger wanted to know how far bees will go to gather honey. It is proved positively that they go two miles. In case of scarcity, Capt. Hetherington said they might go farther. He counts on their working over an area of a mile and a half radius, and locates his apiaries accordingly. Mr. Doolittle is sure they go of choice four or five miles, and gave facts that seemed to sustain the idea. Mr. Scofield was of opinion that his bees travel much farther west than in any other direction—probably because they catch the odors from that direction best.

Mr. Betsinger has noticed the field of operations of his bees, and is satisfied that they go at least seven miles away from home, and travel as fast as a mile in two minutes. Mr. Doolittle confirmed this statement. His Italian bees have been seen and lined from three miles beyond Skaneateles lake, which is two miles wide, and two miles southwest of his residence, a distance of seven miles.

Mr. Doolittle and Mr. Betsinger allow the bees to raise all the brood they can, claiming that while the hive is filled with brood, the bees will fill the boxes, and the more brood hatches, the more workers there are, and the more boxes will be filled. As fall approaches, brood decreases, and the comb is filled with honey for the winter use of the bees.

Thus these gentlemen get all the early and best honey in their boxes, and the bees feed on the last made and dark honey. By this practice, these apiculturists have been eminently successful. They use small frames. See the table.

Mr. Doolittle thought that more bees perish from going out in the spring and gorging themselves with cold water, thus chilling themselves, than from any sudden falling-off of the temperature of the atmosphere. They require water for the purpose of brood rearing; and it should be supplied to them, with the chill off, near the hive.

Capt. Hetherington was of the opinion that the appliances and improved system of management now in practice among advanced apiarists, secure three times as large a yield of honey as could be obtained six years ago, by the system then in general operation. He thought that from a judicious system of non-swarming, the best results are obtained, as the whole force of the colony is then engaged in the production of surplus honey. But in case the swarming fever gets possession of a stock, it must be broken up at once. This is best done by humoring them. In general management, to allow a moderate increase is much better than to undertake to suppress the swarming fever altogether.

At request of members of the meeting, Mr. C. R. Isham, of Peoria, N. Y., exhibited his new glass honey box, which was well received by the most experienced, and universally admired. It is thought this box will revolutionize the style of surplus honey packages.

SECOND DAY.

The very large attendance, and keen interest manifested, was evidence of the progressive tendency of the promoters of this growing industry. Since the organization of the several associations, experiment and discovery have increased the productive power nearly one-half. There yet remain many questions to answer, however; regarding some radical

points, there is as wide difference of opinion as that which separates the advocates of deep and shallow setting, or high and low temperature among dairymen. The student who shall discover an unfailing method of keeping bees during their dormant period will be a public benefactor. Practical men are studying the habits of the insect, and not a few have arrived at conclusions respecting temperature during winter, satisfactory to themselves.

This morning the roll was called, after which several new members were enrolled.

The Treasurer presented his report, by which it appeared that the balance in his hands is $79.39. A number of ladies were present.

As the "Question Drawer" was not ready to report, Mr. Nellis asked for a general discussion of the following questions:

Shall we encourage the use of the Honey Extractor, or shall we discard it? If we use it, to how great an extent?

He wanted to draw out the expression of this society, as many prominent writers and associations favored discarding its use.

C. L. Root, of Mohawk, presented his views. The extractor, he said, used in connection with boxing is indispensable. It is one of the greatest inventions in bee-culture. There are stocks which can hardly be controlled. The extractor compels lazy bees to go to work by withdrawing the honey. The best results with the extractor have not been attained. He had extracted largely for five years, and had had no difficulty in disposing of it. In practical shape, a market could be made for it at home. The distant markets are glutted. Canned honey, if genuine, will keep. We should develop our home markets. Some members had found it difficult to sell extracted honey at home; but it seemed to be the general opinion of the convention that good honey could be sold among the farmers. Mr. Root believed that stocks whose honey had been extracted went into winter quarters in much better order than when boxed. Brooding is largely increased by extracting.

Mr. Nellis leaves his liquid honey for sale on commission. If it candies, he takes it home and liquifies it by heating. Much will depend upon the market and the method of selling. Many find it difficult to peddle honey. It would be difficult to dispose of large quantities, without much exertion. He believed his liquid honey did not cost more than two cents per pound, as he could only count the expense of extracting and marketing.

This honey could not be obtained by any other method.

Some strong stocks are intent on swarming. By extracting, he procured honey from bees which would not work in boxes. Other stocks are too weak to work in boxes.

Captain Hetherington believed the extractor a useful instrument, which will never be abandoned. But stocks from which box honey is wanted, should not be extracted. In the fall, unfinished boxes can be extracted and the combs put in a cool situation for the bees to clean out. In this way the combs can be used to the best advantage in boxes the following season.

Bees do not work well in unfinished boxes kept over to be filled the next season.

N. N. Betsinger.—Will not the bees eat up the combs so exposed, and will not foul brood be disseminated?

Capt. Hetherington.—If the combs are put where the sun does not strike them, and the day is not too warm, the bees will not injure them. No foul brood will be disseminated by this process.

Mr. Nellis.—Foul brood is a terrible scourge. None but experienced bee-keepers should attempt this method, when they have reason to suppose that foul brood exists in their apiary.

N. N. Betsinger, on the other hand, believed the extractor to be ruinous to the industry. He could find no use for it in his apiary. It is instrumental in the spread of foul brood. But it had been the experience of Mr. Hetherington that the use of the extractor eliminated foul brood.

Mr. Root had found that freezing combs destroyed foul brood. The extractor may be safely used upon brood in all stages of development.

Mr. Nellis advised the convention to use the extractor principally upon weak and lazy stocks, and those troubled with the swarming fever.

Mr. Doolittle agreed with Mr. Betsinger.

The general conclusion seemed to be that the extractor is indispensable if properly used, and will not be discarded.

QUESTIONS AND ANSWERS.

The contents of the question drawer were then read by P. H. Elwood, of Starkville, chairman of the committee to which they had been referred. The answers to the queries presented were prepared by a committee of three practical bee-keepers, and we present them entire:

1. What is the best method of controlling the swarming fever? Answer—The free use of the extractor, or by making an artificial colony.

2. Is it an injury to bees to have more forage in the spring than they need for brood rearing? Yes.

3. Is it necessary to give bees a flight that are wintered in cellar or house? No.

4. Should bees have ventilation in

wintering; if so, how much? Yes; not as much as is generally given.

5. Side or top boxing, which is preferable? Two of the committee were in favor of top boxes; one was in favor of both.

6. Which is the better method of swarming, natural or artificial, where box-honey is the object, and you wish to double your stocks. Two of the committee prefer natural swarming; one prefers artificial.

7. Which is advisable to produce, box or extracted honey, when you have a ready market for either? Both.

8. Why do bees seal up cracks and openings in the hives? To retain the animal heat.

9. Should an excess of honey be removed from the hive in the fall or in the spring? In the fall.

10. How far apart should apiaries be located? From four to seven miles, depending upon the size of the apiary.

11. Is it important with the Italian bees that the guide combs in the surplus boxes extend from bottom to top of honey boxes? The more comb the better.

12. Why do bees leave their hives about the 1st of May? Discouragement from confinement, mouldy combs, or small cluster of bees.

13. What is the best method of preventing after swarms? Introduce a young, fertile queen.

14. How should a queenless stock be managed, when the keeper has no queen in the spring? Unite with another stock having a queen.

15. What should be done when in the case of an after swarm whose queen had been destroyed, and which had been returned to the parent stock, but which persisted in coming out day after day? Destroy queens until all save one is gone.

16. Upon what conditions does success in wintering depend? Good stocks in the fall; proper temperature and ventilation; perfect quiet.

17. Is there any sure cure for foul brood save the destruction of bees and comb? Yes, by preventing brood rearing, by the free use of the extractor, and by smoking the combs with brimstone.

A paper on "Ventilation" was read by P. H. Ellwood, of Starkville. He gave interesting instances of plant ventilation and absorbtion, and quoted from authorities to support his views.

(This paper will be forwarded to you, if possible.)

Upon motion of Mr. M. B. Warner, the association proceeded to select the next place of meeting.

The first ballot showed a large majority in favor of Syracuse. Syracuse was thereupon unanimously chosen as the next place of annual convention. After a brief discussion the convention adjourned for dinner.

MOSES QUINBY.

Upon the opening of the afternoon session Mr. Ellwood read a biographical sketch of Moses Quinby, the veteran apiarist, who died in May last at St. Johnsville. The sketch was an eloquent tribute to the memory of an earnest investigator, discoverer and honest man. Mr. Quinby had been President of the association for five years. An ode by S. Alexander, of Camden, suggested by his career, was read. Both papers were ordered printed in the report. Formal resolutions of respect were also adopted, as follows:

WHEREAS; We have been called to mourn the unexpected death of our honored brother, Moses Quinby, former president of this association—to whose exertions it owes its existence, and to a large degree its continued prosperity—therefore, be it

Resolved, That in his death, bee-keepers throughout the civilized world have sustained an irreparable loss, and bee-culture has lost its most practical writer and ablest expounder.

Resolved, That as his counsels have contributed so largely to our success as individual bee-keepers, we will endeavor to pay the debt of gratitude we owe him, by contributing to the success of what he considered his life work—the placing of bee-culture among the masses upon a sound financial basis.

Resolved, That, while we tender our heartfelt sympathy to the bereaved family, we realize that none but the family can fully understand the loss which they have sustained.

Resolved, That these resolutions be recorded on the minutes of the Association, and that they, together with an ode by S. Alexander, be presented to his esteemed family.

THE CENTENNIAL.

Letters from the centennial bureau of agriculture were read, inviting a full display of apicultural products.

On motion the matter of a representation of honey and bee apparatus at the centennial, was referred to the committee already appointed with the addition of 30 new members. The entire committee is as follows: Captain J. E. Hetherington, of Cherry Valley; J. H. Nellis, Canajoharie; P. H. Ellwood, Starkville; L. C. Root, Mohawk, and R. Bacon, Verona. Full authority to make necessary arrangements and to use the funds of the convention, was delegated to the committee. No other association of bee-keepers has taken action in this matter, and all responsibility rests with the Northeastern Association.

The few remaining hours of the convention were devoted to discussion, of some of the questions answered by the committee in the morning.

Mr. Bacon took issue with answer given by them, to No. 8. He claimed it was chiefly, if not altogether, to exclude the enemies of the bees, prominent among which, is the moth.

Mr. Elwood sustained the position of the committee, stating that bees do not use propolis until late in the season, after the ravages of the moth are nearly ended.

The Association agreed chiefly with the committee.

Mr. Nellis suggested that Mr. Bacon try the Italians and he would have no more trouble with moths. This led to a discussion of the merits of blacks and Italians. The Italians were generally conceded to be the best for all purposes.

Mr. Nellis said he would refrain from expressing a general opinion, as his purpose might be deemed selfish. He believed that where buckwheat is the only or principal source, the black bees will gather the most honey.

Question No. 15 was discussed. The answer was deemed inadequate. The fear was that the swarm might come out and start for the woods, when the keeper would probably fail to catch the queen. Mr. Betsinger recommended that the swarm be hived in a box and placed at the side of the old stock, within about two feet. In two or three days, at evening, shake the swarm on a sheet, hunt out the queen and return to the present hive. In the meantime, the bees of the old stock, being too weak to swarm, kill off all but one queen. The bees that marked the new stand, return to the old hive.

Wintering was discussed at considerable length, eliciting various opinions and methods, with instances of success to sustain each. The statistical table published herewith, speaks practically, and should be studied.

A majority favored using a moisture conductor, non-conductor of heat, upon the top of the hive. This class think too much draught of air is often given. Mr. Gates showed that his bees had no top ventilation, unless it came through the propolis and boards, and yet his bees wintered well. The secretary then alluded to Mr. Hoffman, of Fort Plain, and Mr. Bucklin, of Little Falls, who winter in the same way. Investigation shows that with Mr. Gates and the gentlemen named, the temperature never fell below thirty-six degrees Fahrenheit. The conclusion was that if no top ventilation is given, the temperature must not go down to the freezing point. Mr. Hetherington stated that Mr. Bucklin kept his bees long confined—to nearly the first of May. Mr. Gates and Mr. Bucklin warm their dwellings with furnaces, situated in the cellars.

Mr. Hoffman thinks the moisture which accumulates, is necessary to brood rearing.

The difference in the size and shape of frames—so long as they are convenient to handle—was deemed unimportant.

The Secretary was convinced that the difficulty, to a great extent, is a disease—not contagious, however. He cited many instances where bees formerly wintered well in the most exposed situations, and under most adverse circumstances, but now the utmost care and study must be given. He knows plenty of men who have kept many bees with no special care, for from 20 to 60 years, successfully, yet for the last three or four years they have had no bees.

The Association did not generally agree with him.

Mr. Bacon has no trouble in wintering bees; the trouble is in spring, when caught in cold snaps. He houses his bees; but last spring his losses were nearly all after the 6th of April. His neighbors, who kept their bees out of doors, suffered in the same way, in the spring. Brood was plenty at the time.

A gentleman suggested that bees be kept in a way to keep them quiet until the middle of May, when danger from cold is over.

If Mr. Bacon can get a day in the first of January and one at the end of February to set them out, and give them a good fly, he has no fear of dysentery.

Mr. Betsinger did not like the idea of handling and exposing bees in winter to fly, both on account of risk and expense.

One gentleman thought locality had a good deal of influence. In his locality bees cannot be wintered out of doors. Five miles away they winter well.

Mr. Betsinger is of opinion that many stocks perish because of the loss of the queen, which makes them uneasy.

Mr. Bacon says 60° is too high a temperature, and 20° too low. He prefers 38°. There may be reasons why others would do better with a higher or lower temperature. He puts a cloth, and four or five inches of cut straw over his bees to absorb moisture and prevent too much radiation of heat.

Mr. Nellis has better success with a temperature of 48°, but he uses no such absorbing material.

Very much of the discussion of the different sessions was not recorded.

On the following page will be found a very valuable table, showing at a glance what several of our prominent members have done during the past year, and by what management it has been accomplished.

Adjournment was taken subject to the call of the executive committee. The sense of the house, taken on motion, indicated a wish that three days instead of two be occupied by the annual convention in future.

J. H. NELLIS, Sec'y.

NORTH-EASTERN BEE KEEPERS' ASSOCIATION.

TABULAR STATEMENT OF OPERATIONS FOR THE PAST SEASON.

NAMES.	SUCCESS IN WINTERING.					SUCCESS OF THE SEASON'S OPERATIONS.											
	No. of St'cks		Condition in spring.	Where Wintered and the Temperature.	Manner of Wintering briefly expressed.	No. of Stocks.				Name of Hive.	Number and Size of Frames.	Am'nt of honey produced.		Amount of Wax.	Extra Queens reared.	Principal sources from which honey was gathered.	Average value of the honey season.	Amount of sugar fed, fall, 1875.
	Fall, 1874.	Spring, 1875.				Spring, 1875.	Fall, 1875.	In fall. Italians.	In fall. Blacks.			Box.	Extracted.					
E. F. Wright	22	21	g*	Cel., above 32‡	No top vent'n—entrance open	21	58	36	22	Cross bar	8 frames, 11x17	1,700	....	..	...	White clover	Mdm.	....
R. Bacon	128	87	w	Bee house, 38	5 in. cut straw on top—ent. open	87	130	1	129	Green's Imp	8 fr., 9½x17 & 11x15	2,620	600	36	...	W. clo. & buckwt.	"	....
F. H. Gates	45	35	w	Dark cellar, 42	Little top ventilation	35	55	25	30	Plain frame	8 frames, 10x16	1,000	70	..	..	Clo., cat. & buckw.	Poor.	....
Joseph Stetsil	20	20	g	Cellar, 30 to 40		20	45	....	45	Quinby	8 frames, 11x18	200	....	..	...	White clover	Good	....
S.&E.W.Alexander	80	50	w	Cellar, 33		50	77	....	77		12 frames, 12x12	200	1,900	50	...	W. bassw. & buck.	Poor.	....
M. B. Warner	...	3	w	Out doors		3	7	mix	...	Standard	14¼x14¼	50	100	5	...	White clover	"	15
J. H. Nellis	38	26	w	Cellar, 30 to 44	Quilts on and entrance open	26	47	47	...	Old Quinby	8 frames, 10½x18	717	642	5	211	W. clo. & buckwt.	Mdm.	....
Sol'n Vrooman	100	66	w	Cellar, 30 to 40	Quilts on—straw on sides	66	90	30	60	New Quinby	7 & 8 fr, 11x16½ & 15x15	2,900	350	25	50	Buckwheat	Poor.	....
J. E. Hetherington	420	190	w	Cel. & ho. 40 to 45	No top vent'n—too much at btm.	410	630	120	510	New Quinby	8 frames, 10½x16	11,200	2,100	..	...	Buckwheat	"	4200
J. A. Burdick	31	17	w	House	Top ventilation	17	27	25	2	Sisson	8 frames, 12½x12½	....	778	14	...	W. clo & basswood.	"	....
W. Bacon	4	3	g	Cellar	No top vent'n—entrance open	3	6	....	6		8 frames, 10x18	100	....	..	...	Clover & buckwt.	Mdm.	15
N. N. Betsinger	148	116	m	Out doors	Q'lts&str. m'ts on top-hive tight	115	212	212	...	Betsinger'sImp	8 frames, 9x14¼	6,500	....	..	...	Bassw.,tea.& buck.	"	....
C. T. Rougeop	16	12	g	Cellar, 22	Just as on summer stands	12	26	....	26	Union	7 frames, 10½x16	800	....	15	...	Clover & buckwt.	"	....
Lewis Baird	33	33	g	Cellar, 46	Quilts on—five over cellar	33	39	32	7	Langstroth	10 frames, 8⅜x16¾	4,326	350	5	22	Clover & buckwt.	"	....
D. H. VanAlstine†	65	52	u	Cel. 35 & out doors	Quilts on—front raised 1 inch	52	60	60	...		8 frames, 10x15	3,400	1,000	16	7	Buckwheat	Poor.	....
M. H. Tennant	60	47	g	House, 43	Top shut—ventilation on sides	37	60	....	60	Union	8 frames, 10x17	4,420	200	..	...	Clo., lind. & buck.	Good	....
D. L. Betsinger	11	10	g	Out doors	Top ventilation.	10	20	....	20	Langstroth	9 frames, 9⅞x16⅝	350	....	..	...	Basswood & buck.	Poor.	....
E. D. Clark	16	16	m	Clamp, 41	Little top vent'n—ent. open ½	18	37	mix	...	New Quinby	3 to 16 frames, 10½x18.	1,020	300	..	...	Clover & raspberry	"	150
Dr. J. R. Pratt	50	28	w	Out doors	Packed over and side of frames.	28	47	12	35	Quinby	8 frames, 12x17	600	500	80	...	Clo.,lind.&goldnrd.	"	200
Isaac Wilmarth	61	46	g	Cellar, 42	Ventilation top and bottom	47	83	....	83	Kidder	9 frames, 12x12	825	....	20	...	Clo. & basswood	"	....
C. D. Jones	29	27	g	Cellar, 40	Carpet, etc., over frames	27	32	16	16	American	10 frames, 11½x12½	1,925	375	8	...	Clo. & buckwheat.	Mdm.	....
I. C. Scofield	50	34	g	Cellar, 40	Quilts over frames	44	60	60	...	Langstroth	10 frames, 8¼x17	4,032	748	..	37	Clo. & buckwheat.	"	....
G. M. Doolittle	106	46	w	Out doors	Quilts on—entrance closed	46	106	106	...	Doolittle's Imp	9 frames, 10¾x10¾	4,848	30	35	150	Bass., tea. & buck.	"	....
C. R. Isham	...	...	...	...	...	55	...	....	...	Frame	...	2,600	400	..	...	...	Poor.	....
J. Hoffman	105	105	g	Cellar, 36	No top ventilation—ent. open	102	142	20	122	Hanging frame	10 frames, 10½x13	4,200	400	5	...	Clo. bass. & buckw	Mdm.	200
L. C. Root	121	119	m	Cellar, 48		119	130	65	65	New Quinby	7 frames, 11½x19½	2,098	2,457	..	...	Basswood	"	....
C. C. Van Deusen‖	72	55	u	Cel., 45 & out drs.	Feed, if nec'sary-have good qns.	85	78	mix	...	New Quinby	9 frames, 11⅛x16¼	3,225	600	..	...	Clo. & buckwheat.	Poor.	....

* *g*, good; *w*, weak; *m*, medium, and *u*, uneven. † Mr. VanAlstine's wintered well out of doors. ‡ Degrees, Fahrenheit.
‖ Mr. Van Deusen is wintering about twenty nuclei, each having from one to seven frames.

Report of the Centennial Committee of the North-Eastern Bee-Keepers' Association.

The committee to whom was referred the matter of making proper arrangements for inducing bee-keepers to display their bees, honey and apiarian implements at the great National Centennial, wish to announce that they have held correspondence with several parties in relation to the matter, and finally received communications directly from Capt. Landreth, Chief of the Bureau of Agriculture.

We find that gentleman very courteous and exceedingly anxious that every means be used to induce bee-keepers to make a good display—equal to that made in all other branches of agriculture—and commensurate with the importance of the industry.

He reports to us that very few entries have been made in the "Centennial Proper." It is well known that articles to be exhibited in it must be on the grounds April 19th, 1876, and remain through the entire exhibition—about six months. We informed him that honey that was gathered last season would not be in condition to exhibit; and if it was, could not be kept in good condition for so long a period.

These facts led to the establishing of special shows, and we cannot do better than submit herewith a letter just received from Capt. Landreth, bearing upon this subject.

"U. S. CENTENNIAL COMMISSION,
Philadelphia, Feb. 18, 1876.

J. H. Nellis, Sec., N. E. Bee-Keepers' Association:

SIR:—Your letter of inquiry of Feb. 12th, has been received, and I now proceed to reply to the questions in their serial order.

During the entire six months of the International Exhibition, working bees and apiarian apparatus, in all its ramifications, will be on exhibition, and honey and wax as well.

But to afford additional opportunity to bee-keepers, it has been decided to have two special displays of honey and wax; viz.: June 7th to 15th, and Oct. 25th to Nov. 1st.

The continuous exhibition will be made in the large Agricultural Building; the special exhibitions will be made in an adjoining structure, to be known as the Agricultural Building for special displays.

The Apiarian Exhibition commencing June 7th, will be held in connection with the display of strawberries, and that commencing Oct. 25th, in connection with the display of nuts.

Though apiarian apparatus will be exhibited during the entire season, still it may be considered appropriate to allow the entry of such implements and fixtures as will be necessary to make clearly manifest the methods of proceedure, to accomplish the results represented.

In neither of the seasons of exhibition will there be a charge for space, nor an entry fee. Each worthy exhibitor will have, during the season of his display, free entry to the exhibition, and will be required to assume all charge of his articles.

The Centennial Commission levy a tax of fifteen (15) per cent. on the gross receipts of all articles sold within the exhibition grounds, and from this rule no exception can be made.

Though premiums, consisting of medals and diplomas, will be issued by the Centennial Commission to the exhibitors of the most meritorious articles in all classes, still it is considered highly desirable that Apiarian Societies, Journals and Individuals should offer special prizes, and in this they have already the precedent of special prizes to the value of over five thousand dollars, now offered for other displays of agricultural character.

May I not look for a special prize from your Society?

In relation to the exhibition of working bees, I have pleasure in informing you that two parties have applied for space and furnished drawings and specifications for House Apiaries, each to contain from ten to twenty hives.

BURNET LANDRETH,
Chief of Bureau.

From the above letter it will be seen that we have no positive assurance that hives, honey extractors, knives, bee veils, honey boxes, etc., etc., can be exhibited at the special shows. We, therefore, recommend that those having a desire to exhibit Apiarian wares, shall make immediate application to Capt. Landreth for space, or information concerning the same, that their articles may be in place April 19th.

The rules governing this exhibition are very liberal, and as none of us shall see another National Centennial, it is certainly to be hoped that a grand response will be made.

In our next report we hope to announce what special prizes are to be given, and for what articles or objects. In the meantime, we hope to receive communications from parties throughout the country, relative to prizes they are willing to offer for special purposes or displays.

We will be pleased to hold correspondence with any person who may have suggestions to make, or information to give, so that the Bee Department may be fully an equal to the other industries that will be there so fully represented. As no other societies have taken steps to the development of this scheme, we hope they will

fall in with us and give all the assistance in their power, as a perfect success should be mutual to the entire brotherhood.

J. H. NELLIS, Sec'y.
J. E. HETHERINGTON, Chairman.

For the American Bee Journal.

Sundry Items.

"The February number just to hand. This is as we like it. The Journal, Magazine, and Gleanings are usually on hand within a few days of the first of the month it calls for; would that '*The World*' could be induced to be equally as prompt.

"We have had a very remarkable winter. The coldest day was Saturday, Dec. 18th; the thermometer ranging at 14 degress on that day; the next being Friday, Jan. 14th, thermometer, 20 degrees; from these it has ranged up to 60 degrees. Fully two-thirds of the weather has been clear and fine, having but little rain and only one slight sprinkle of snow, which was on the 9th of December. You and your readers are doubtless aware that we, in this latitude, winter our bees in their summer stands, so you see, from what I have said of the weather, that our bees have been able to fly out very near the whole winter. We have about 60 colonies in our queen-rearing yard, and so far have lost only three. The first lost was one which we had purchased in a box-hive and had not transferred: it was taken by the moths, Nov. 19th. The next we discovered was Jan. 13th, which went up for the want of stores; this, also, was a recent purchase. The last was on Sunday, Jan. 23d, which was by a "leave-taking," and to us, a very mysterious one. The day was a very fine one, but windy. We had taken a stroll around the hives, but discovered nothing unusual: returned to the house and was seated upon the doorsteps, when a neighbor came up and asked if we had lost a swarm of bees, to which we replied, that we had not, but in company with him took another stroll among the hives, still finding nothing wrong. We then went with our neighbor to his house and found that a swarm had entered one of his hives, and a "big fight" was going on, with hundreds of the killed and wounded strewn around. We now returned to our yard and made another examination: we soon came upon a hive beseiged with robbers, a considerable fight also going on, and now and then a bee entering with pollen. We opened the hive and found it totally deserted, yet containing plenty of honey, both capped and uncapped; also pollen in abundance, and eggs and brood, both sealed and unsealed, showing that they were not queenless, nor in a destitute condition. The queen of this colony was one of my own rearing, having hatched in August; was fertilized and laying, Sept. 5th: she was very prolific. Now will some one inform me why she took her departure?

"Friday, Jan. 21st, made an examination of the most of our hives; found the majority of the queens laying, and all with ample stores. Our truant queen had sealed brood, and by this time, probably, has young bees nestling about her."

WM. J. ANDREWS.
Columbia, Tenn., Jan. 26, '76.

For the American Bee Journal.

Visiting.

On a beautiful morning in August I found myself in Hamilton, Ill. I went there on a visit for which I had longed for several years. From the various articles I had read, I anticipated that I was soon to see an apiary, whose equal was not to be found in America. Nor were my expectations doomed to disappointment. By a little inquiry, I found that the Messrs. Dadants lived about two miles north of Hamilton, on a little stream known as Chenny creek. Just a nice morning walk all shaded by beautiful little trees, quite a quantity of which were Linden. The path crosses the creek quite a number of times. The water is almost as clear as crystal; it runs over the rocks very swiftly. In some places it runs by high ledges of rock, out of which numerous springs of pure, cold water flows. The largest of these, is called "Wild Cat Spring" and is known for miles around. It is the favorite pleasure resort of hundreds of people of Keokuk. It issues from a large cave and affords hundreds of gallons of water per hour. The water is conducted through large wooden troughs and falls in a large artificial reservoir. A pretty grove right by the side of it is surrounded by a cute, rustic fence; here and there ladies and gentlemen are seen strolling around playing croquet or other games. The path, after leaving this spring, passes by one or two cottages before coming to the home of the big bee man of Chenny creek.

After leaving the last cottage it is but a very short distance; the view on both sides of the path being cut off by a dense growth of shrubs, until you find yourself by the side of a regular liliputation city with about a hundred and eighty houses almost all alike except that they are painted different colors. The apiary is situated on both sides of a point of a hill; the greater part of the apiary slopes to the southeast, the remainder to the south. Just at the north edge of the apiary they are building a new house, I presume Mr. Dadant, Jr., expects to import a queen to introduce into it, for he assured me that imported queens were the best.

I was highly pleased to learn that they expected to receive an invoice of queens the next day, I accepted the pressing invi-

tation to stay and see them. As they did not come early in the morning, C. P. Dadant concluded that he must go to an apiary some fifteen miles down the Mississippi (for they only live about a mile from the river) and put on honey boxes, as they were just getting their first yield of honey for the season. But when we arrived at Hamilton, he found that the queens had arrived and been sent out to him; as he had the whole care of the apiary, he concluded to go back and introduce the queens; when we got back they were not yet unpacked. There were twenty-two in the invoice; in some of the boxes every worker bee was dead, the queens alone being alive. While Mr. Ch. Dadant unpacked and caged them C. P. and I introduced them; they do not lose more than one or two out of a hundred in introducing. They simply confine the queen about forty-eight hours, then having liberated her do not disturb the hive again for a week. This was the eighth invoice of 22 queens each, they had received this year, but since they have received three more invoices which are all they get this year; the whole number of queens they have received is 236, out of this number about 80 were lost in importing, six or eight in introducing.

Receiving queens thus every two weeks they are enabled to supply the place of queens shipped to their customers and to cull out as worthless, every queen which does not produce bees of the highest grade of purity. In the afternoon we took several of the best of the queens taken out, to make room for the imported ones, to an apiary right on the bank of the river some five miles above their home apiary. This road leads by some of the most delightful scenery I ever saw. It runs along on the bank of the river just above high water mark; at last the road twists and winds around through a ravine till you find yourself on top the high bluff before a pretty little French cottage, beside of it are over fifty hives on a steep south hillside; here C. P. overhauled all these hives, putting on quite a number of boxes and introducing ten or fifteen queens in about two hours. After partaking of a splendid supper we returned to Chenny creek by moonlight, enjoying a good ride. This was one of the most pleasant days that ever fell to my lot to enjoy.

The next morning I concluded to see the lower apiary, having again hitched to his wagon-load of honey boxes, his lively horses soon brought us to an old farm house with a steep hillside dotted with Quinby hives; here we found quite a number of boxes filled with honey. C. P. thinks this is the finest location for an apiary he ever saw. Right in front of it are thousands of acres of low bottom lands covered with wild flowers of all kinds. His boxes being put on, and quite a number of new colonies having been made, we returned to their home apiary. As I bade adieu to Chenny creek I felt well repaid for my visit, only wishing that such apiaries were more numerous.

A. N. DRAPER.

Upper Alton, Ill., Jan. 12, 1876.

Voices from among the Hives.

SIDNEY, IOWA.—Jan. 12, 1876.—"During the past winter there has not been over 10 days at a time that bees could not fly. For the past three weeks they have been out nearly half the time. A neighbor of mine lost one or two swarms the first cold snap, by starvation, with the lower part of the hive full of honey. He had extracted from the upper story and the bees clustered among the empty combs. When the cold came on, not being able to reach the honey, they starved. In the October number, H. Nesbit reports an increase of 545 colonies from 32. That beats the world. I would like to have a description of his management." L. G. PURVIS.

WENHAM, MASS.—Feb. 15, 1876.—"Bees are wintering well. We have had a very mild winter, and bees have had a chance to fly as often as twice a month."

H. ALLEY.

SCHOHARIE CO., N. Y.—Feb. 11, 1876.—"I like the JOURNAL much, and hardly see how I could get any success without it. I have 70 swarms and they are all wintering well." GEO. VAN VORIS.

CEDAR CO., MO.—Jan. 29, 1876.—"I am well pleased with THE AMERICAN BEE JOURNAL. I can't well do without it. My bees are still in winter quarters, and are in good condition. I have purchased several box stands this winter and expect to make 50 new Langstroth hives this season—have 20 of them done now. I expect to increase to 75 or 80 colonies, if the coming season should be a good one."

J. F. LYNN.

COLUMBIA, TENN.—Feb. 14, 1876.—"I examined several hives yesterday, and found quite a number of young bees and drones in a hatching state. Will have drones flying in a few days."

WM. J. ANDREWS.

TAMA CITY, IOWA.—Feb. 9, 1876.—"I put 104 swarms in basement cellar last fall. They are doing well—all but one very weak swarm. About one-half of my bees are Italians." W. E. NEWCOMB.

NORTHUMBERLAND, CO., PA.—Jan. 18, 1876.—"I went into winter quarters with 15 stands. Last year I saved only 10 out of 24 I don't know what causes the bees to leave the hive in May, with plenty of brood and honey, and a clean hive. Three of mine did so on May 8th."

W. H. GARIHAN.

CLINTON Co., ILLS.—Jan. 21, 1876.—"Yesterday I noticed the ground nearly covered with dead bees in front of one of my September swarms, and on examing them I found that many of them were young bees, some of them almost white, though apparently perfect, but I thought they looked very large for worker bees. To-day being pleasant and the bees flying freely I thought I would look into them. They are in an old box hive of about 2,000 cubic inches (I had run short of frame hives) about three-fourths full of comb. I turned up the hive and smoked the bees; to my surprise the drones began to fly out quite lively and from what I could discover, the foul center combs appear to have been full of drones for several inches in height, and there are a good many yet in the worker cells. I could not discover a drone cell in the hive. There are plenty of worker bees, and honey enough to last them till spring if they drive out the drones which they appear to be doing pretty fast. There has not been a week at a time this season that my bees have not been flying, and some of them have carried in loads half the day, the one spoken of above, being among the busiest. I think some of the old hives have not taken in anything though flying as lively as those that do." C. T. SMITH.

COLUMBIA, TENN.—Jan. 21st, 1876.—"We made an examination of our hives to-day, found they all had plenty of stores, and a large majority of the queens laying. Our Dadant queen had sealed brood, so we will have young bees in a few days. Every mail is bringing us letters inquiring how soon we can furnish queens. We will have new queens by April 1st, or sooner. These letters are called forth by our advertisement, as we have not sent out any circulars, except in response to correspondents." STAPLES & ANDREWS.

BOONE Co. MO.—Feb. 12, 1876.—"Bees safely on their summer stands; 120 colonies all in perfect health; combs as bright as the day they were housed; without the loss of a single colony; fewer bees lost during their first flight than ever before." E. C. L. LARCH.

MILLEDGEVILLE, ILL.—Jan. 17, 1876.—"We received the chromo all right. It more than met our expectations. It is simply beautiful. We never saw such a good present given to a single subscriber to any paper. Our bees (35 stocks) are wintering well, so far. We put them in the cellar Oct. 29, about four or five weeks earlier than ever before. By the way, we have been reading the proceedings of Michigan Beekeepers' Society. A paper was there read from Mr. A. Salisbury, which I would be glad to see published in the A. B. J." F. A. SNELL.

[We will publish it if the Secy. or Mr. S. will forward it.] PUBLISHER.

BARNES' CORNERS, N. J.—Feb. 5, 1876.—"We had but 15 colonies, last spring, left from 41 put into winter quarters, and 12 of these died before June 10th, leaving but three swarms—one very weak. They did not starve; and I attributed their demise to the late honey gathered. Perhaps they did not cap it, and that may have been the cause. They were wintered in a building used for several years for that purpose. It is a double walled brick, filled in with sawdust. The last season was a poor one." A. S. LUCAS.

SAN PATRICO Co., TEXAS.—Jan. 18, 1876.—To-day, my bees are gathering pollen and honey. Only three light frosts this winter, so far. This, though, is not usual at this season, even here. I am a little South of 28° N. latitude.

JOHN W. BAYLOR.

PEORIA Co., ILL.—Jan. 3, 1876.—"My Italians were at work on Jan. 1st, very busy; all day they came in loaded down, very often being unable to reach the hive from sheer exhaustion. I watched them for a long time, and saw dozens of them drop into the grass within a rod or two of the hive, and on going to them, found that they invariably got up and went for the hive lively after a minute or so of rest. They appeared a third larger on their return to the hive than when they started out. There is a grove of willows about a half mile distant, to the northeast of my place, and as they invariably came and went in that direction, I imagined that the past week of very warm weather had opened them a pasture in that grove. Isn't it very unusual for bees to find anything to work on, or to have a disposition to work at this season of the year?

GEO. M. PIPER.

TRUMBULL Co., OHIO.—JAN. 20, 1876.—I have made a pair of scales for weighing honey, hives, etc., on the plan of grocer's tea scales; length of beam 30 inches, made out of two pieces of old buggy springs. I intend to use them to set a hive on next season, so as to tell at any time whether they are gaining or losing. The scale can be balanced by bricks, stones or anything else. One set of weights, from a 4 lb. to 1 oz. will be enough, or balance the hive on the scales and hang over a small spring balance attached to the hive, which will give the amount gained. I am now making a pair all wood, except the centres, which are steel, that can be made for 25 cents. Any one that can make a hive could make a pair of scales. I could make the centres, if desired. If I thought scales would sell, I would get up patterns and make a good scale for weighing hives or honey. I coax Italian bees to work in boxes by sticking a piece of comb on the bottom of the box, and the bees will work up. Try it. J. WINFIELD.

NAZARETH, PA.—Jan. 24, 1876. — "I have kept bees for 52 years, and still take much interest in them. It does not pay in our section, as the farmers have discontinued raising buckwheat. This winter is a favorable one for out-door wintering, being mild, with no snow, so far."

WM. CHRIST.

CAMARGO, ILL.—Feb. 19, 1876.—"My bees are wintering finely; but my success, for years past, in this respect, has been so uniform, I always expect success after placing them in winter quarters."

A. SALISBURY.

KALAMAZOO, MICH.—Feb. 1st, 1876.—In the February number of the JOURNAL, in the discussions of the Maury Co. Bee-Keepers' Society, upon feeding, different articles were spoken of, as rye, flour, corn-meal, etc. Some years ago, I had two colonies that became destitute of honey early in March, and with a view to prevent starvation, I commenced feeding syrup made from coffee sugar, poured upon a warm buckwheat cake, feeding upon alternate days. They would eat the cake more or less, sometimes entirely. They bred up very rapidly, and were the strongest colonies I had in my apiary that season. I now believe that the cakes furnished proper food for breeding purposes, in the place of pollen, and shall experiment with it the coming spring. I would be glad to have bee-keepers try it, and report through the JOURNAL.

W. B. SOUTHARD, M. D.

WAVERLY, IOWA.—Jan. 28th, 1876.—My bees have done well the past season. Out of four stocks I obtained twenty-one natural swarms, all in good condition, and sold $25.00 worth of honey.

THOS. LASHBROOK.

FREMONT CO., IOWA.—Feb. 7, 1876.—The past season opened very unfavorably. Last spring I took out only twenty-nine colonies out of forty-five that I put in the cellar in the fall. Nine of these were weak; twenty good. As soon as the weather would permit, I commenced feeding them syrup made of C sugar, and by the last of June I had fed $19 worth of sugar. Linn bloomed the first of July. My bees were very strong, and occasionally a swarm would come off in spite of my vigilance to prevent it. About a week before the linn bloomed, I thought we should have a grand honey-harvest, but it rained so much that the bees got but little honey. One day only was fair during linn bloom, and I weighed some of my colonies in the morning, and again in the evening, and found they had gained twelve pounds. If the weather had been good, I can't tell what would have been the result, for linn bloomed profusely here.

The fall was good for honey, and I find, from my books, that I increased from twenty-nine to forty-six, and have taken 3650 lbs. of honey; all of which I have sold at an average of 19 cts. per pound. I think bee men make a very great mistake in placing their honey on the market in large cities. I sometimes leave some in the stores where I trade, but I sell nearly all among the farmers. I can sell more in one week, out in the country, than I ever sold through the merchants in town all put together. I sell at 18 cts. by 50 or 100 wt., and 20 cts. in small lots. My bees are in excellent condition; they have honey enough to keep them until July.

WM. MORRIS.

FLAT ROCK, N. C.—Feb. 25, 1876. My bees commenced to bring in pollen from off the alders on the 18th of January, and on the 22d they commenced to bring in honey and pollen from the soft maple, and honey from the bee-meadow. I never knew it to bloom before April, till this year. The bees are doing well on the maples any days that are warm enough for them to be out. My bees have done well, so far: lost only two, out of forty stocks.

ROBERT T. JONES.

OWENBORO, KY.—Feb. 1, 1876.—"Bee pasturage is probably as good in Ky. as any other State, except California. We have abundance of tulip and white clover in spring, and smart weed in fall; these are our main dependence. We have others as helps—as many, probably, as in any other State. We have 6 or 8 large apiaries in this country that have from 30 to 100 stands, owned by men who keep bees on scientific principles and are doing a fair business, besides many bee-hive men, who are doing very well. We got no surplus last year, a frost (April 1st) killed all kinds of bloom, and then it rained from May 1st till August 20th. Our bees, at the time they should have been working in boxes, were starving to death, but by uniting and feeding, we managed to save about two-thirds of them in good condition, having a good honey harvest in the fall. They are now in fine condition and have been rapidly carrying in pollen for 20 days from hazelnut and alder. Such a thing was never seen before in this country. I examined my strongest stands to-day, and found brood in all stages and eggs in drone comb. I shall try to get the drones out as a curiosity. The hives mostly used in this country are the Langstroth and Buckeye. We have some Extractors, but do not take honey for profit, as the honey does not sell, and besides that, we do not like to sling our bees. I take honey in small frames, and sell it at 25 cents per lb in the home market. I like the way James Heddon talks; his theory corresponds with my experience, and I think he must be a man with a 'head on.'"

T. E. GRIFFIN.

PITTSBURGH, PA.—Feb. 9, 1876.—"The honey market has been very dull, honey being a luxury does not find ready sale during such an exceedingly hard season as the past one has been in this section. We hope for a better trade in such goods this year. Our supplies with the exception of a few small lots from Virginia have been brought direct from the Pacific coast." JESSE H. LIPPINCOTT.

WORCESTER CO. MASS.—Feb. 16, 1876.—"I keep a few swarms of bees, not for profit, but for the pleasure of seeing them work and taking care of them. I very seldom lose a swarm. I winter them on their summer stands and take the whole care of them. I go among them without fear and am but seldom stung. White Clover is our chief honey plant. I find THE AMERICAN BEE JOURNAL very interesting." MRS. EDWARD BROWN.

CARLYLE, KANSAS.—Feb. 23, 1876.—"In 1874 bees were an entire failure here, and in 1875 they were not much better. Last fall they stocked up some, but made no surplus honey. We scarcely ever get any surplus honey here until smart weed, Spanish needle, and corn are in bloom. Some seasons there is considerable buckwheat sown, then bees do very well." JOEL B. MYERS.

ELIZA, ILLS.—Feb. 19, 1876.—"On page 15 of AMERICAN BEE JOURNAL, in the description of section box the upright side-pieces should be 6⅞ inches, instead of 1⅞. The ½ inch mortice is cut by a saw so set as to wabble. The ½ inch thin strip is laid in these mortices so as to hold the frames in a box. In answer to J. E. of Kansas. It is not like the boxes described on page 108 of AMERICAN BEE JOURNAL 1875, but these frames make a continuous tight box except on the bottom and ends. When these frames are put together there is on each side a continuous groove, in which the thin strip fits; this being tacked at each end holds them all together. Be careful to have this stuff cut out *exactly* as given in AMERICAN BEE JOURNAL, page 15. Honey put up in these frames when nicely made has brought us 5 cents more per pound. When filled with honey one of these boxes will hold about 25 pounds, and yet the frames can be taken apart and one comb sold weighing 2 pounds, or 1 pound, if frame is small enough. Clark and Harbison do not use any glass in ends. I wish to—will some one inform me through AMERICAN BEE JOURNAL how to do so." D. D. PALMER.

Please write names and post-office address very plain. Very often men forget to give their post-office, and quite often a man dates his letter from the place where he lives, when the paper is to be sent to some other office.

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Vol. XII. CHICAGO, APRIL, 1876. No. 4.

The Future of the North American Bee-Keepers' Society.

A few words on the above subject from one of the originators and ex-presidents of the North American Bee-keepers' Society will not, we are sure, be considered presumptuous or unwelcome by the readers of THE AMERICAN BEE JOURNAL. We are not at all surprised at the proposal being deliberately made and seriously entertained, to disband the Society, and should this course be ultimately adopted, it will not follow that the organization was a mistake or a failure. It has done much to make prominent bee-keepers acquainted with each other; to diffuse apiarian information; to promote scientific and practical apiculture; and to draw public attention to various important matters connected with the honey interest. To many of us, the meetings of the Society will always be memorable as having led to the formation of friendships that we highly value, and that have taken a wider range than the realm of bee-keeping. We shall not forget that they gave us the opportunity of knowing the forms and listening to the voices of Langstroth and Quinby, one of whom, alas! is not, and the other is feeble with infirmity and age so that he cannot be long for this world. The private and unpublished discussions by little coteries of bee-keepers, at hotels and elsewhere; the interchanges of experiences, some of them too mortifying to be told to "all the world and the rest of mankind," and the ventilation of plans and appliances too crude to be given to the public, as yet, must count among the minor, but by no means inconsiderable, benefits of the meetings in question. We doubt if any member was at so large an expenditure of time and money to attend these gatherings, as ourself, but most certainly we do not regret the outlay. But, as President Zimmerman justly observes, the times are changed. Bee-keepers now have to "pay like sinners," on the railroads, whereas, in other and better days, they traveled at reduced rates. Editors used to get passes, where now they receive the cold shoulder instead. Time was when we could go on any railroad in the Dominion of Canada "free gratis for nothing," now there is only one road, and that a short one of only 26 miles, on which we can get even half fare. Even with the privileges once accorded, it was rather a costly luxury to attend the annual conventions. Some of us went when our wives, and our better judgments, too, told us we "hadn't oughter." And we stayed away, in rare cases, not because we didn't want to go, but under the same influence that prevented the rural worthies, immortalized in Grey's Elegy, from realizing their aspirations:—

> "Chill penury repressed their noble zeal
> And froze the genial current of their soul."

President Zimmerman chronicles the formation of a Bee-keeper's Association for the State of Ohio, and wisely advises other States to go and do likewise. There is a flourishing Northeastern Bee-Keeper's Association which practically represents the State of New York, and really has its headquarters in the vicinage of the Mohawk Valley, having had until recently, the late Moses Quinby as its chief inspiring spirit. Michigan has also its B. K. Association. We heartily endorse Mr. Zimmerman's recommendation about the establishment of State societies. Every State, province and territory should have its apicultural organization. But we desire to supplement Mr. Z.'s advice, with the suggestion, that the North American B. K. Society should actually become, what some of us contemplated from the outset, a representative body. The records of the Society's past meetings will show that this idea is by no means a

new one. It would doubtless have been carried out before this, but for the paucity of State organizations. Let these only be multiplied to a sufficient extent and it will be easy to make the continental body representative, which is obviously what it ought to be. Each State could send one or more delegates, and what is an oppressive expense to the individual bee-keeper, would be but a small charge on the funds of a State association. We can see important results to be secured by a council of eminent representative bee-keepers, and our hope is that the Society, instead of voting to disband, will resolve itself into the representative body above described. A meeting at the Centennial Exhibition would be a favorable opportunity for making this change, although we are of opinion that the circumstances will not be favorable for having a business meeting. Those of us who go to the exhibition will do so to enjoy ourselves, and have a good time generally; to forget bee-stings, apiarian troubles, and the vexations of life generally. A re-union with apicultural friends will be pleasant, but business will be a bore. It will be a much nicer thing for the Society to take on a new form of life at the Centennial than it will be for it, there and then to "give up the ghost." For our own part, our motto is, "Never say die." Make a new departure, strike out afresh, do something more manageable and practicable, but avoid that which is undesirable in itself, and would be interpreted by outsiders as a proof that bee-keeping is on the decline, which we know it is not, by any means.

The Society has got over some difficulties which threatened its earlier stages; it has accomplished much good, but its mission is by no means fulfilled. "To be or not to be, that's the question." We cast our vote for continued existence in a better form. "Destroy it not, for a blessing is in it." W. F. C.

☞ Particular attention is called to the new advertisement of J. H. Nellis & Brother, opposite the first page of this issue of the JOURNAL. They are good square dealing men and may be depended on.

For the American Bee Journal.

Artificial Comb Foundation.

Will you be kind enough to give some information on the artificial comb question? Who holds the patent right for making artificial comb? Is the comb foundation, sold by John Long, patented? Who first brought comb foundation to notice? I saw a piece, years ago, made of this paper, coated on both sides with wax. A friend who tried it reported that his bees would not make use of it.

W. C. P.

The foundation spoken of by Mr. P——, made of paper coated with wax, was probably a plain sheet without any of the cell configurations, and he does not state whether the bees simply left it untouched or destroyed it. We do not know definitely of any experiments made with waxed paper configurated, but we have assurance that several experiments will be made under different circumstances early this season. It is thought that fine tissue paper may be used to advantage. We shall give the result of these experiments in due time.

Artificial combs have been in use in Germany and in Italy for many years. A patent was issued in the United States to the late Mr. Samuel Wagner, then the able editor of this JOURNAL. It was lately purchased by Mr. Perrine, of Chicago. See notice on last page of this issue.

John Long's Foundation was made by Mr. Weiss in New York, by a machine he had invented for that purpose two years ago, on which he is now getting a patent.

Novice (A. I. Root) has also invented a machine for making it, that really turns out a nicer article than that sold last season in New York. This machine has been purchased by Mr. C. O. Perrine, and will be used in the manufactory now being fitted up by him in this city.

Mr. Perrine has also permanently engaged Mr. Weiss to superintend his works—and soon they will be ready to fill all orders promptly. Orders may be sent to this office for it in any quantity.

☞ If you know of any bee-keepers who ought to take the AMERICAN BEE JOURNAL, but do not, and will send us their names and Post Office addresses, we will send each a sample copy.

The Centennial Display.

The Centennial Commission have erected a special building for bees, and steps should be taken at once to make a fine display there.

It is arranged to have special shows of honey on June 20 to 24, and Oct. 23 to Nov. 1, and every thing of interest in the way of hives, bees, or apiarian appliances should be there on exhibition.

We invite special attention to the following letter, just received from the chief of the Agricultural Bureau:

U. S. CENTENNIAL COMMISSION,
PHILADELPHIA, March, 17th, 1876.

MR. THOMAS G. NEWMAN, publisher AMERICAN BEE JOURNAL, Chicago, Ill.—*Dear Sir:*—The advanced character of apiarian apparatus produced in this country will not be as thoroughly shown at the International Exhibition as is desirable, unless manufacturers immediately apply for space, which will be granted without entry fee or rent for room, if application be made at once. Objects for exhibition must be in place by 25th April. Yours respectfully, BURNET LANDRETH, Chief of Bureau.

The Centennial Committee of the N. E. Bee-keepers' Association made report in our last issue. The following is a further report from the committee:

REPORT OF THE CENTENNIAL COMMITTEE OF THE NORTH-EASTERN BEE-KEEPERS' ASSOCIATION.

The North-Eastern Bee-keepers' Association appreciate the propriety of making the display of honey at the coming International Centennial as grand as practicable—commensurate, if possible, with the display in other branches of agriculture.

To this end a committee was appointed to investigate the conditions and requirements necessary for the exhibitor, and then appropriate as much of the funds from the treasury, for laudable objects, as they should deem prudent.

The first part of their duty was performed, and reported in the Bee Journal for March.

After proper deliberation, they decide to offer the two following prizes, both of which are to be competed for at the SPECIAL SHOW of honey and wax, to be held Oct. 23, to Nov. 1, 1876.

They offer $35 for the best and most meritorious display of comb and extracted Honey and Wax,—conditions as follows: The honey and wax must be of fine quality, and put up in elegant packages, such as are most likely to find ready sale at high prices. *Other things being equal*, the larger the display, the greater the merit. The judges will consist of practical bee-keepers and dealers in honey.

They offer $25 for the best and most practical essay on "How to keep Bees successfully during winter and spring."

Such essays should not treat upon the physiology of the bee, except so far as is necessary to explain instincts and management. This is suggested with a view to making them brief. With bee-keepers, the ultimate idea of SUCCESS is, the attainment of pecuniary reward, and in deciding upon the merits of the essays, the judges will keep this idea prominent. If none of the "Centennial Committee" compete for this prize, they will act as the judges.

In any case, unbiased, practical bee-keepers will act as judges on the essays. These prizes are open for competition to the world.

Before closing this report, the committee suggest that the time for holding the "National Bee-keepers' Association" *be changed* from the first Wednesday of September to the 25th of October, 1876. This change will bring it into close connection with the fall special show of honey and wax, the time for which was fixed by the Centennial Commission.

By October 25th the summer work of the apiary will be done, and the honey, to some extent, disposed of.

If the National Society meets at that date, all bee-keepers can get home in time to prepare and put their bees into winter quarters. We hope these points will receive due consideration from the mass of Northern bee-keepers.

We will write to the officers of the National Socieiy, and hope arrangements can be made to have the October Special Show of Honey and the meeting of the National Society come at the same time.

Suggestions and opinions will be gratefully received.

J. H. NELLIS, Secretary.
J. E. HETHERINGTON, Chairman.

We think, on the whole, that the time named will be the best for all concerned—and trust that arrangements will be made accordingly, so that those going then can witness the honey show, as well as at tend the Convention.

☞ A correspondent asks us: "What is the object of the comb foundation? Is it to make the bees build straight?" We answer that it is *not* entirely that, though it is a great help to those who cannot spare combs for guides—but it saves the bees' time, and, time is honey, and honey is money to the apiarist. The foundation saves fully one-half the time in building comb.

☞ "Let justice be done though the Heavens fall," is a legend appropriate to nail to the banner of THE AMERICAN BEE JOURNAL. "Exact justice well meted out" is just what it purposes to give to all—without fear or favor!

In the remarks of Captain J. E. HETHERINGTON, before the N. E. Bee-keepers' Convention, as reported in this issue, on page 98, at the bottom of the first column, he says that in "a good season and large yield, the journals are eager for a report, but in a poor one, like the last, *no report is asked for.*" How it could be possible to make this mis-statement, we cannot imagine. There is but *one* Bee Journal on the American continent—and that, THE AMERICAN. In the September number of 1875, page 193, we called for *universal* reports. In the October and November numbers are published hundreds of these reports, reporting good, bad, and indifferent experiences. Never were reports so faithfully called for, and never was a call more fully responded to, than last fall! Surely, the reporter must have garbled the expressions of Captain Hetherington—he could not have made such a statement.

On page 104 of this issue, Mr. T. F. Bingham states that "honey-comb is one thing, beeswax another, and very different thing;" and that butter after being melted "is butter no more—it is *grease.*" Although we are not an expert in beeswax, we have always understood that the bees formed the honey-comb, using little particles secreted by themselves known as beeswax, and that the changing of its shape again from honey-comb to the solid cake known in commerce, would *not* change the original character of the article. Again, a comparison between beeswax and butter is hardly fair, for butter, as it comes from the churn, will degenerate if kept too long, but beeswax will not, under ordinary circumstances, for ages.

In the next paragraph, Mr. B. attempts to quote from an old advertisement of one of our honey dealers—but he evidently quotes from treacherous memory—and credits to the wrong party. We thought we remembered the expression and looked up the old circular and find it was issued by the Honey Co., Wm. M. Hoge or Mrs. Spaids, and not C. O. Perrine, as stated.

This number also contains an article from Mr. Coe on the House Apiary; and in the present situation of the matter we must ask him not to think uncharitably of us, if we decline a continuation of the controversy, unless it shall contain information valuable to bee-keepers in general, and not merely personal differences between himself and Novice.

This gives us occasion to say a word in general. We believe in the largest liberty in all matters that shall further the interests of the bee-keeper. So long as views differ in regard to points of interest in our specialty, we invite the fullest and freest discussion, and always hold our columns open to publish opinions the most diametrically opposed, only so that thereby new light may be gained and the truth arrived at. There are many points upon which the apiarist is deeply interested to have new light thrown. Notably, the matter of wintering and springing, and with regard to this there are almost as many views as there are writers. Probably, however, those who have done the most thinking and experimenting, if asked to-day how to winter and spring bees without loss, would shake their heads and say the problem was yet unsolved. In this state of the case, there must surely good result from the freest interchange of views, but with this freedom of utterance comes the danger that personalities may arise and a half a column be filled with matter of no benefit to the reader and of doubtful gratification to the writer. These things arise not merely because of difference of views, but because of some little bitterness of expression in the first place, some single word, perhaps, that adds nothing to the value of the article, and might better be left unspoken, but which calls out several lines in reply, to be followed in turn by a longer reply, until the readers of THE AMERICAN BEE JOURNAL heartily wish the disputants might be allowed to carry on their wrangle by private correspondence. If A is firm in the belief that upward ventilation, and plenty of it, is essential, and so expresses himself, B, who holds opposite views, will not strengthen his position so well by saying A or any other man is a fool to believe in

upward ventilation, as by bringing facts to bear, and showing large numbers of colonies safely wintered with no upward ventilation whatever.

Now, we cordially invite every bee-keeper who has a single fact that may be of use to our readers, to make free use of of our columns. THE AMERICAN BEE JOURNAL has no interest whatever, in any hive or hobby, only to do the most good in giving such reading as shall be valuable to those who have the care of "the busy bee." So send on your communications, one and all, whether you agree or differ with others, only, good friends, don't be ill natured, and before sending in your articles, *please pull out the stings.*

☞ Within the past few days we have received letters from Bee-Keepers in Denmark, France, Belgium, Austria, New South Wales, Australia and England. It is very gratifying to us to know that the old AMERICAN BEE JOURNAL is read and prized in almost "every clime under heaven."

☞ With the next number we shall commence a series of articles on experiments, and shall illustrate them with cuts, so that all can comprehend them at a glance.

Mr. T. F. BINGHAM, now in Nashville, Tenn., wintering his bees, writes us, that he will take them back to Michigan early in April. He says, "they have wintered fairly and seem to be doing well."

Mr. M. M. BALDRIDGE, of St. Charles, in this State, has gone South to take charge of the Rev. W. K. Marshall's apiary, during the coming season. Mr. M. writes us that his bees are doing well—gathering some honey.

When your time runs out, if you do not wish to have THE AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

Many are the inquiries as to the present status and whereabouts of Mrs. Tupper. The following is a sample of some; while others contain a recital of the frauds practiced upon the writers by her, and not a few refuse to pay for the JOURNAL, because she has defrauded them—forgetting that *two* wrongs will not make *one* right. We had nothing more to do with her business transactions than "the man in the moon," and to ask us to pay her bills, is unreasonable in the extreme. But here is the letter we started to give:

"I had cultivated high esteem for Mrs. Tupper, and to have such an one come to such a fate, from whatever influence, produces sadness and pity. I don't learn from the papers the result. What has been done with her case? Success to the JOURNAL." E. H.

To answer this we will say that Mrs. Tupper has been taken to the Iowa Insane Asylum. Evidence accumulates every day, to prove that she has been recklessly carrying on this "crookedness" for years, and that it was as systematic as it was relentless.

In a private letter "Novice" says: "Mrs. Tupper obtained as many subscriptions for our Journal, (*Gleanings*) as she could get, but never sent the money."

From Mr. Slocum, of the *Bee-keeper's Magazine*, we learn with regret that Mr. A. J. King, his partner, has caught a heavy cold, which has settled in his eyes; disabling him, for the present, for editorial duties. We hope it may not be of long continuance.

Michigan Bee-Keepers' Association.

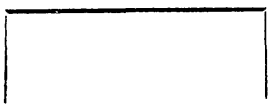
The Third Semi-annual Session of the Michigan Bee-Keepers' Association will be held at Corporation Hall, Kalamazoo, Michigan, on Wednesday, May 3d, 1876. The first session will convene promptly at 1 o'clock P. M. We extend a cordial invitation to all bee-keepers to be present. Our Spring sessions have hitherto been decidedly successful, and we have every reason to believe that the coming one will fully equal its predecessors in point of interest and importance. The subjects for discussion will cover the broad field of modern Apiculture. Come prepared to give us your best and most valuable ideas of the points involved, and thereby aid in making the meeting of mutual interest and profit. HERBERT A. BURCH,
South Haven, Michigan. Secretary.

OUR HOME.—On the cover of this issue is a view of the building on the corner of Clark and Monroe Streets, which contains THE AMERICAN BEE JOURNAL office. An idea of the location and building will be obtained by those who cannot give us a call, and to those coming to Chicago it will serve as a guide to direct their steps to a familiar place—our office. We expect to keep on hand, for exhibition to our friends who call on us, all the new, as well as the older appliances for apicultural labor. We are gathering some in now, and in the course of a few weeks shall have quite a display. To all, therefore, when coming to this city, we extend a cordial invitation—"Come and see us."

"EUREKA."—That means "I have found it." Well, what is it? J. L. SMITH, Tecumseh, Mich., tells us he has found THE Bee Hive! We asked him to send a sample one to this office with description. Here is the description—our readers must call and see the hive, if they are not satisfied with the following:

"It is simply a hive in a nice little Bee House, with surrounding air spaces, (patented) with a queen nursery, so arranged that four nuclei can be wintered with their queens, immediately over the full colony. The main colony can be removed at will, without disturbing the nuclei, or *visa versa*. But for honey-gathering use two boxes, holding about 16 pounds each; those boxes are constructed of ten small frames each, making a very convenient sized box for shipping, and just the thing for the retail trade; each frame holding, on an average, about 1½ pounds. I build all my hives with the honey boxes unles otherwise ordered."

E. S. STOW, Fort Dickinson, N. Y. writes us that he finds the Double pointed Shade Tacks very useful for bracing frame corners. They can be obtained at any hardware store. The following represents the exact size of them.



He has sent us a section of frame, showing its use, which is on exhibition in this office. He says that six cents worth will furnish enough for ten frames.

☞ In March No. you give the wrong size of the bottom bar of my frame—it should be 12½ inches in length.

S. K. MARSH.

SPLENDID.—E. C. Jordan, of the "Bee Cottage Apiary," Frederick Co., Va., has forwarded to us by express some of his superfine Comb Honey, as a sample. It was sent in one of his newly invented tin boxes, which we will describe more fully in a future number of THE BEE JOURNAL. For safe shipment it has great advantage over wooden boxes, and his honey looks so nice and tempting in it that Mr. Jordan finds ready sale for it at from 30 to 40 cents per pound.

☞MANY thanks to those who have remitted the amount of their arrearages during the past month—but there are hundreds yet to be heard from, and we would urge upon them the necessity of liquidating *at once*—as we greatly need the money to pay for our folly in placing too much confidence in "crooked" humanity.

A private letter from Rudolf Mayerhœffer, Esq., editor of *Der Bienenvater*, Prague, Austria, informs us that from May 13 to 17, there will be an International Agricultural Fair in Prague (Oesterreich). Newstadt, Breite, Gasse No. 747. He remarks that bee hives and honey will find ready sale there—but that honey in boxes is yet unknown to Austria.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send post paid a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

WM. S. BARCLAY, Beaver, Pa., has sent to this office, for exhibition, one of his machines for cutting winter passages in combs. It is doubtless a very handy contrivance.

HENRY DEAHLE, Winchester, Va., has mailed to us one of his 5 pound sample boxes. His claim is that they never break in shipping, and sell with the honey in gross. They are cut, ready to nail together, grooved for two glass sides. They are light and smoothly finished. See his advertisement in this issue.

☞ The following is a letter from Mrs. WAGNER, widow of the late SAMUEL WAGNER, and its contents speak for itsel

YORK, PA., March 23, 1876.

DEAR AMERICAN BEE JOURNAL: I would like to state in reference to the patent taken out by my husband, the late Samuel Wagner, for the manufacture of artificial Honey Comb Foundation, that Mr. C. O. Perrine, of Chicago, wrote to me asking for an individual right to make and use the same, and I answered by saying that I did not wish to sell individual rights, but would make him a complete assignment of the whole patent for so much money, cash. Mr. Perrine came here and paid me the price asked without trying to get it for any less. Others have infringed the patent for some time but have never offered to buy it, probably knowing that my age and circumstances would not permit me to prosecute them. I write this to give a moral weight to a reason why all persons who wish to buy the comb foundation should get it of Mr. Perrine, as there may be those who will still infringe. Yours Respectfully,

ELIZABETH R. WAGNER.

☞ The Southern Kentucky Bee-keepers will meet in convention at Smith's Grove, Ky., on Thursday, June 1st, 1876. We especially invite all bee-keepers to attend or send us communications on any subject they choose. We expect an interesting and profitable meeting.

N. P. ALLEN.

A boy that can speak English and German, from 14 to 17 years of age, and not afraid of bees, can find a steady situation, by applying to DR. W. B. RUSH, Pointe Coupee, La.

☞ We have a new lot of fresh melilot clover seed, that we can supply at 25 cents per lb. Postage 16 cents per lb extra, if sent by mail.

☞ Dr. N. P. Allen writes us that he expects a good honey harvest this year, and that his bees are doing finely. He adds: "White clover prospects were never better. I have lost but one stock this winter and that was caused by carelessness. I am proud of the AMERICAN BEE JOURNAL and read it with pleasure and profit.

☞ Those having any thing of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

Voices from Among the Hives.

CRAWFORD CO., PA.,—March 10, 1876. —"My bees have wintered splendidly thus far, in-doors." HENRY S. LEE.

LONG ISLAND, N. Y.—March 13, 1876.— "Bees have wintered remarkably well—almost without loss. They have had a fly every two or three weeks, all winter long, and to this I attribute their fine condition." D. R. PORTER.

SPRINGFIELD, O.—March 11, 1876.—"I cannot get along without the JOURNAL. It grows better and better with each issue." A. B. MASON.

HARTFORD, KANSAS.—March 15, 1876. —"My bees did well last year after the grasshoppers left in June. I have 46 colonies. They carried in natural pollen on the 9th of Feb., and every warm day since, from soft maple." WM. K. NORBURY.

POINTE COUPEE, LA.—March 3, 1876.— "The fall of 1875 was too wet for honey here and it was a failure. A great many bees have starved. Some are troubled over the dark prospects of the honey market, but all the fears I have are that my bees will not give me as much honey as I can sell. I can now raise honey equal to California in color, and of a much finer flavor, and so far could not fill all my orders. I am fully in for the Centennial Convention to be held the same time as the honey show. We cannot send fancy articles of honey so far by express, we must take them with us. I can't leave my bees in June, but can in Sept., which is the most pleasant time of the year. I shall go then and take a full line of samples of honey." W. B. RUSH.

HENDERSON, TENN.—March 15, 1876.— "I have lost two stocks this winter that were queenless. The other 16 were as vigorous as in May, previous to this week; now the snow has been 9 inches deep for a week. My bees have bred all winter. There were but a few days that they could not fly. I had last season, from 14 stocks (4 or 5 weak stocks gave no yield) 225 lbs. extracted honey. 160 lbs. of that was buckwheat. I extracted them clean in August and found in January plenty of honey and bees. Mine are mostly Italians." T. A. SMITH.

SIGEL, ILL.—March 9, 1876.—"Of 69 hives I have found up to date 2 dead. Both were evidently queenless; swarms of Sept. 65, I winter out doors, in hives which allow five inch straw packing all around, so they never become too cold. My hives have an improvement which I believe is new. The front of my hives is protected by a 4 inch straw bag which rests on a tunnel 4 inches long which fits

the fly-hole, so that the bees any warm day of 45° can have a fly. By this way their fly-hole is 6 inches long. No sun ray can strike the inside, No cold storm can immediately press out the warm air, and the bees are less disturbed than those having a short fly-hole." CH. SONNE.

JEFFERSON, WIS., Feb. 28th, 1876.

"I have had lots of trouble with Mrs. S. E. Spaides and her husband, C. D. Spaids, and that they owe me over $1500 yet on two notes which, with another one they had given me after a settlement I had with them at their store at 50 Grand street, New York, in December, 1874. I was forced to sue them for the payment of those notes; they brought every obstacle in my way, but I finally beat them, getting judgment against each of them, but during the progress of the lawsuit they had sold out, leaving New York,—Mrs. Spaids going to West Virginia, and he to Maryland. At present my attorney has obtained an order from the court to imprison their lawyer, who is in prison since the 21st of this month, because he would not take an oath and then answer questions concerning the whereabouts of the property of the Spaids. I considered Mrs. Spaids honest, at one time sold her over $4000 worth of honey without any security, and she paid me, but since she got connected with Spaids, she cannot do as she wants to, and perhaps changed her idea about paying debts. ADAM GRIMM.

BETHANY, O.—March 3, 1876.—"This has been a very mild winter, consequently there has been but few bees lost with the cold, some have already died and others soon will die if they are not fed, as but little honey was gathered last year, and that from fall flowers, and I find on examination that a great deal of it is granulating in the cell.

I saw swamp maples in bloom January 22. On Feb. 13 my bees were carrying in natural pollen; but since then the weather has been too cold for them to fly much.

Our main honey plant is white clover. Last year, I did not get an ounce of surplus, and besides, had to feed about fifty lbs sugar, and will have to feed that much more this spring." W. S. BOYD.

JEFFERSON, WIS.—March 20, 1876.—"My bees wintered so far good, they were set out on the 10th and had a good flight; but now, we have one snow storm after the other, and all hope of an early spring is gone. I winter my bees in a House *a la* Novice, 15 inch wall, filled with sawdust, the same kept free of frost the coldest of last winter and the temperature was moderate this slight winter, about 40 degrees on an average. My bees came out in good order, lost only one out of 60 hives.

In the March number, '75, I read: "Is it a fact, that first swarms issue in the forenoon." My after swarms issued most any time of the day, but especially early in the morning, some before 7 o'clock, and I have had first swarms frequently in the afternoon, some as late as 6 o'clock in the evening." W. WOLFF.

SCIOTA CO., O.—Feb. 26, 1876.—"My bees are all (20) on summer stand and doing well—never better; rearing brood all winter; more bees now than I began the winter with. I am trying to learn my bees to stay out all the time, for we must find some way to succeed on summer stands."
W. F. PATTERSON.

CADIZ, KY.—"I have 9 stands of bees, 6 of them in Langstroth's hives. The first part of last year my bees did but little; late in the fall they did better. I took 300 lbs. of honey from 4 stands and got 2 swarms." J. LARKINS.

ABERFOYLE, ONT.—March 17, 1876.—"I am much pleased with THE JOURNAL. If I could not replace the numbers of this year I would not take $10 for them. I have kept bees for 7 years and have read Langstroth and Quinby. THE AMERICAN BEE JOURNAL should be in every bee-keeper's hands. One of my neighbors subscribed for another Bee paper, but no sooner does my JOURNAL come than he is over to read it. Bees have not done well here for two years. We have lots of linn, buckwheat, clover and raspberry. In the valley near me, there are many honey plants, and we have as good a country for bees, as anywhere in Canada."
R. C. CAMERON.

WILKESBARRE, PA., March 9, 1876:—"Seeing an advertisement of Mrs. Tupper's, that she had for sale, $5 queens, 'safe arrival guaranteed,' I sent for one, forwarding the money Aug. 1st, 1874. It did not come till so late in the fall, that I ordered it not to be sent,—and the money returned. In answer to this, came a *dead queen*. In the spring of 1875, she agreed to send me another, but it never came. I am not surprised at her downfall, as she proved dishonest to me some time ago.
GEO. D. SILVINS.

APPENOOSE CO., Iowa, March 9, 1876:—"Bees have wintered splendidly in this neighborhood. I have not lost a single colony this winter. My bees are all bright and healthy; this time last year I had lost nearly all. I had only two colonies left, to begin with, last spring. I increased them to twelve colonies; got over 100 lbs. of box honey; raised forty-five queens; and had all my bees in good fix for winter, without feeding. My bees are all Italians; I breed from imported mothers; think they are much the best. I get my imported queens from Ch. Dadant & Son." M. M. CALLEN.

For the American Bee Journal.

"Scientific" Talks to the Washington Co., N. Y., Agricultural Society.

MR. PRESIDENT:—A few years ago the New York State Agricultural Society extended to apiarians the privilege of discussing their avocation at one of their evening sessions. This recognition of their position as one of the great industries of the State, was a subject of congratulation among bee culturists, and was of much benefit for the future development of the business.

In like manner the bee keepers of this county are encouraged by the invitation extended to them for the first time to appear before this society, and I come before you as a representative of this class to present a few facts and ask a few favors.

We are well aware that the thrifty farmers of this county who own their broad acres and improved stock, and who come before this society annually with their varied and substantial productions, usually look upon the art of bee cultivation as of trifling import; but if we compare our stock with theirs we find we can trace the pedigree of our industrious insects to the remotest periods of antiquity, and while your grades of domestic stock are made profitable in proportion to their dependence upon the hand of man for their daily food, our insects are endowed with almost human wisdom to lay up stores of food for their own sustenance, and a generous surplus for the use of the fortunate owner.

From the time when Sampson found the body of the lion he had previously slain converted into a bee-hive, there have been practiced various methods of obtaining the fruits of their labors; but not until our own progressive century came to add its enlightenment, has bee culture become a science equal in importance to other industries of the age. And now, owing to the application of the movable comb principle, the honey extractor, artificial honey comb, and the introduction of improved stock from foreign countries, this branch of rural industry is enlisting the attention of thinking people in all portions of our country, and in our own county the business is being rapidly developed by the application of these new discoveries.

When we examine into the statistics of the production of honey, it is no wonder that intelligent people should favor this pursuit. We are surprised at the amount that could be obtained had we the industrious workers at hand in the proper season to obtain it.

From careful observation and from the experience of others it is safe to say that an average of five hundred pounds of honey could be obtained from every square mile in this county, but if these figures seem too high, let us deduct one half for poor seasons, and then the 850 square miles of our county would produce over 200,000 pounds. To those unacquainted with our honey resources, these statements may seem to be overdrawn, but we have at hand figures from various localities in our State and in other States, where the annual production has been over one thousand pounds per square mile, while California, noted for its wonderful productions, has localities where there seems to be no end to the flow of this abundant sweet.

Here, then, we have in our nation billions of pounds of this healthy substance actually going to waste for the want of these willing laborers to gather it.

We send our hard-earned dollars to other States and countries for our sweets, while our broad fields of clover, our forests of linden, and countless varieties of beautiful flowers by the wayside, are every day in their season making the air fragrant by the evaporation of this useful substance.

In view of these facts is it not, then, of great importance that we should extend the necessary information to parties of either sex who may be endowed with the peculiar talent for this branch of rural economy? With a wider dissemination of these truths and their intelligent application, competition would arise, with competition lower prices, and with lower prices greater consumption, and the article that is now considered a luxury would come into every-day use upon our tables and in our cookery.

We do not propose, Mr. President, in these remarks, to occupy your valuable time by details of management, or of methods to overcome the disastrous effects of our winters, but will state that in comparison to dairying or other farm operations where large capital is invested and labor expended, bee-culture shows profits far in advance of any other rural pursuit; but to be successful requires close attention and untiring watchfulness, and persons that suppose a fortune is in store for them by merely purchasing a swarm of bees and having no love for the occupation, had much better stick to their productions, from a patch of potatoes at twenty cents per bushel.

This society which has already done so much for the development of our agricultural resources, could do much to further encourage the science of bee-culture.

Our interests would be greatly promoted by offering us more liberal premiums.

Encourage us to display all of our appliances and give us additional premiums to get the greatest yield from a single colony, and instead of crowding us into narrow and obscure quarters, give us

room to display to advantage our various operations, and we assure you that the bee-keepers of this county will add a novel and interesting feature to your annual exhibition.

We have here presented to you but a few points of our business, and trust our honeyed remarks will not fail to be fruitful of good results.

For the American Bee Journal.

What about that Honey?

The following, although more *amusing* than *instructive*, will, perhaps, do for one of the winter numbers of the JOURNAL. Its truthfulness makes it all the more amusing.

Dr. K. and Mr. A., who are transacting some business, are interrupted for a moment by a stranger, Mr. B., who is admitted to the office. Mr. A.—Well, now, let's see about that honey: How much did that amount to?

Dr. K.—Let me see: I will have to look that up. How many jars did you have the last time?

Mr. A.—Ten, I believe.

Dr. K.—I had an idea it was a dozen. Ah! here it is. You are right. Ten jars, at 75 cents, including the jars, would be $7.50, which, with $5.40 for the first lot, makes $12.90.

Mr. A.—Have you any more of that granulated honey. I would like two jars of it for a preacher I have with me in the wagon.

Dr. K.—(Leaving the room with Mr. A.) Really, I have but one jar left, having restored it all to its former condition by heating it to about the temperature of from 150 degrees to 168 degrees. It sells better in that condition at the stores, they tell me. I warmed some up to that temperature last spring, and sealed it hermetically, and I have some of it now,—not a jar showing any signs of granulating. When thus treated the flavor is not injured, as I can see; but is just about spoiled if brought to the boiling point.

Mr. A.—Well, give me the jar that is granulated, and two others. Now let me see how we stand. $4.85: that leaves that you owe me. Haven't you some money so that you can settle it now?

Dr. K.—Really, Mr. A., I am just about entirely out: it would take all I have got, if I did, and I don't think I could settle it to-day, possibly.

Mr. A.—Well, good morning.

Dr. K. (entering the office.)—Well, Sir, we have been having some pretty cold weather.

Mr. B.—Yes Sir: but they are having it colder than this where I came from.

Dr. K.—Ah, where is that?

Mr. B.—Montreal, Sir. I have just settled at Forked River, to engage in the manufacture of a medicine called the Russian Asthma Cure; but I can't commence business without some 'oney. I just heard you tell that gentleman that you were all out, so I suppose it will be of no use to talk about that.

Dr. K.—Well, no sir. I am not troubled with much of that article. I find it is about as much as I can do to get along and provide for my family. But about this Asthma Cure. Have you tried it in enough cases so that you are satisfied that it will really cure asthma?

Mr. B.—Yes, sir. It will knock asthma and dyspepsia higher than a kite. I have tried it in a hundred cases without a single failure. I cured my own wife with it, though she had it so bad that I have been obliged to carry her to an open window many a time in the coldest nights of a Canadian winter, that she might get her breath. But to make it I must have some 'oney. I don't care how *old* or how *black* it is, provided it is perfectly pure.

Dr. K.—(Thinking, perhaps, he didn't understand him) What did you say?

Mr. B.—I say I don't care how old or how black it is, provided it is perfectly pure.

Dr. K.—(Musing, That is queer talk. I suppose the gentleman must have heard of our *Rag Baby*, and hasn't a very favorable idea of it having come from a land of hard money. He speaks of it as black. Let's see. Slavery was the cause of the war, the war was the cause of the *rag baby*, therefore the *rag baby*, must have been of *negro* origin, and therefore black. Perhaps that is his line of argument.) How much do you want?

Mr. B.—A hundred pounds, at least, to begin with.

Dr. K.—(Musing. Let me see. That would be about $500. I guess he tells the truth about coming from Canada, for he talks about pounds and shillings yet.) You say you have some acquaintances at Forked River. Perhaps you might get some money there.

Mr. B.—But there isn't any there.

Dr. K.—Oh, my dear sir, you are mistaken. There is Mr. Falkinburg, Mr. Parker, Mr. Holmes,—there is plenty of money at Forked River.

Mr. B.—Ah, but you didn't understand me. It is *h*oney I want. I happen to have money, and will pay cash for your honey, if you have any. Ha, ha, ha.

Dr. K.—Ha, ha, ha; ha, ha, ha. Why, my dear sir, I thought you was talking about money all the time. It was money I told Mr. A. I was out of. Ha, ha, ha.

Mr. B.—So then you have honey, have you? As I said before, I don't care how old or how black it is, if it is only pure.

For the information of bee keepers, I will say, I soon disposed of what little extracted honey I had at 20 cents.

Ocean Co., N. J. E. KIMPTON.

For the American Bee Journal.

Santa Barbara.

This country is located on the sea coast in the southern part of the state near a group of islands of the same name, and has become noted for its equable climate, attracting thousands from their frozen homes to spend the winter where December is as pleasant as May. Since Dr. Logan, President of the U. S. Medical Association, recommended Santa Barbara as the best sanitarium on the continent, our hotels and private houses have usually been crowded to their utmost capacity by the throng of invalids who were seeking an extension of their lease of life.

CLIMATE.—Our summers are mild and pleasant, the mercury ranging from seventy to eighty, and seldom reaching ninety. The evenings are pleasant, and the nights always cool. Our winter months are warm and genial, like May and June of the East; frost is seldom seen, and every breeze is freighted wfth fragrance from our flower gardens.

SOIL.—In this portion of the State the soil varies from black clay, called adobe, to a light sandy loam, formed from decomposed Tertiary rocks, of which our mountains are composed, and is remarkably productive, yielding sometimes wonderful crops of corn, barley, wheat, and alfalfa.

WATER.—The water is generally pure, not so cool as in higher latitudes, and easily obtained from wells, springs, or mountain streams. In flat land on the coast near the level of the sea, it is sometimes brackish, but in all such cases pure artesian water is usually found at reasonable depths.

IRRIGATION.—In this and the adjoining valleys we have learned that deep and thorough cultivation, so as to save and economize the usual fourteen inches of rain fall, is better than flooding the surface. Eventually, underground irrigation through wooden pipes for horticultural purposes, will be popular.

FUEL.—There is a plenty of wood for present purposes, but if our population continues to increase at its present rapid rate, within ten years there will be very little natural timber, and people will have to use the prunings from their vines, fruit and ornamental trees, or burn petroleum which flows from springs so abundantly that hundreds of barrels are running daily to waste.

HOT SPRINGS.—There are a number of hot springs in the mountain canons that have become quite noted for their healing qualities, and are usually thronged to the full capacity of their hotels. Senator Morton, and thousands of others, have bathed there, and recommended their mineral waters.

TITLES.—Land titles are generally settled and founded on U. S. patents which have been issued to confirm old Mexican and Spanish grants.

SOCIETY ought to be good, for the lamented Rev. Dr. Thomas stated that it was composed of the cream of other communities.

CHURCHES.—The Congregational, Presbyterian, Methodist, Baptist and Episcopal denominations each have an elegant church edifice, and an able divine to occupy the pulpit.

SCHOOLS.—Santa Barbara boasts of a fine young American college, with buildings that cost sixty thousand dollars; a Spanish Catholic San Franciscan college, in a flourishing condition; a St. Vincent school for young ladies, an excellent system of public schools, and an able corps of experienced teachers.

HOMESTEADS.—In this vicinity, and about all other promising towns in this part of the State, small farms are held at from one to three hundred dollars per acre, according to quality, location, size and improvements.

CHEAP HOMES.—Recently several colonies have been formed, and one is now forming, for the purpose of purchasing new land in beautiful little valleys near the coast, where unoccupied ranches, as good as any that have yet been settled, can be purchased at from five to ten dollars per acre, on long time and at a low rate of interest, with a view of subdividing and settling the same, as Vineland has done, making their own towns, schools and churches, so that one thousand dollars will go as far as two or three usually do in securing a new home.

PRODUCTIONS.—This and the adjoining valleys are well adapted to the production of apples, pears, peaches, plums, nectarines, apricots, pomegranates, almonds, olives, English walnuts, oranges, lemons, limes, figs, grapes, wheat, barley, corn, Irish potatoes, sweet potatoes, and honey. Full grown almond trees should yield from seventy-five to one hundred pounds of nuts, worth from twenty to twenty-five cents a pound. One hundred trees are usually planted to the acre. At this rate one acre should yield from fifteen to twenty-five hundred dollars worth of fruit per annum, in a good season and when they are in full bearing. Oranges, lemons and limes do quite as well.

FENCES.—The law restrains stock, and crops require no fencing.

LUMBER.—Rough lumber in town usually sells at $27 per M., and other grades in proportion.

WAGES.—Labor is well rewarded in all departments, especially house servants, who usually receive from twenty-five to thirty dollars a month, and cannot be retained long, even at that price, for the rich old bachelors are sure to promote

them to the position of housewives. Mechanics receive from three to five dollars a day, and farm hands from twenty-five to forty dollars a month.

TOOLS, wagons, etc., cost about twenty-five per cent. more here than in the East.

We have no chinch-bugs, few grasshoppers, no mad dogs, no fly-nets for horses, no mosquito-bars for our beds, no lightning-rods, no fever and ague, no poor-houses, no deaths from sun-stroke or tornadoes, no snow storms, little frost, no ice to cool our lemonade, no sleigh-bells, no sleds for the boys, no woolen mittens, and no skates.

We do have fresh vegetables, new potatoes, ripe strawberries, and ripe fruit fresh from the garden every month in the year, and always an abundance of spring chickens and beautiful flowers.

Those coming to this coast should bring only what they can pack solid, cannot dispose of for two-thirds of its value, and will need after they get here.

Persons desiring especial information should write their address distinctly, and enclose postage stamp.

O. L. ABBOTT.

Santa Barbara, Cal.

For the American Bee Journal.

Virgil and the Bees.

The bee, we find, figures largely in classic poetry. Virgil has devoted a whole book to the subject. He was born near Mantua, Italy, 70, B. C., and we may learn from his writings the degree of bee culture in that age. He says:

"The gifts of Heav'n my following song pursues
Aerial honey and ambrosial dews,"
"Their arms, their arts, their manners I disclose
And how they war, and whence the people rose."

Some, perhaps, may learn from the following:

"First for thy bees a quiet station find,
And lodge them under covert of the wind."

He thinks they should be far away from cows and goats, and the painted lizzard and birds of prey, the titmouse and Procne with her bosom stained in blood.

"These rob the trading citizens and bear
The trembling captive through the liquid air."
"But near a living stream their mansion place."

In line 27 he calls the queen the youthful prince, and advises that trees should be planted along the stream

"That when the youthful prince, with proud alarm,
Calls out the venturous colony to swarm."

In line 47, we learn how to construct the hive,

"Whether thou build the palace of thy bees
With twisted osiers, or with barks of trees,
Make but a narrow mouth, for as the cold
Congeals into a lump the liquid gold." * * *

He says, in line 60, bees are found

"In chambers of their own, beneath the ground;
That vaulted roofs are hung in pumices
And in the rotten trunks of hollow trees."

He describes their employment,

"They breed, they brood, instruct and educate,
And make provision for their future state."

What visions of our youth arise, as we read the following:

"But when thou seest a swarming cloud arise,
Then melfoil beat, and honeysuckles pound;
With these alluring savours strew the ground;
And mix with tinkling brass the cymbal's droning sound."

What is the use of movable comb frames, or non-swarming apparatus when one can bring out the old tin pans or employ a modern brass band?

He next describes a fight, when two pretenders strive for empires:

"They challenge and encounter, breast to breast,
* * * * * *
Till only one prevails—for only one can reign."

And though the air may be full of charging squadrons and combatants,

"Yet all these dreadful deeds, this deadly fray,
A cast of dust will soon allay,
And undecided leave the fortunes of to-day."

He thinks one of the monarchs should then be killed.

Does he mean Italian, when, in line 149, he says:

"The better brood, unlike the bastard crew,
Are marked with royal streaks of shining hue."

We had supposed that the idea of clipping the wing of the queen was of more recent date, but he says when the bees are disposed to leave their empty hives and stay,

"The task is easy—but to clip the wings
Of their high-flying, arbitrary kings;
At their command the people swarm away,
Confine the tyrant, and the slaves will stay."

He next speaks at length of a swain of his acquaintance who kept bees and prospered:

* * * "He supped at ease
And wisely deemed the wealth of monarchs less;
The little of his own, because his own did please,
* * * * * *
And pressed the combs with golden liquor crown'd."

Which one of our patent men stole Virgil's patent extractor?

In speaking of the nature of the bees, he says:

"The bees have common cities of their own
And common sons; beneath one law they live,
All is the State's; the State provides for all.
Some o'er the public magazines preside,
And some are sent new forage to provide.
* * * * * *
Some nurse the future matron of the State;
All with united force combine to drive
The lazy drones from the laborious hives;
Some employed at home, abide within the gate,
To fortify the combs, to build the wall,
To prop the ruins, lest the fabric falls,
But late at night, with weary pinions come
The lab'ring youth, and heavy laden, home."

Some time since a correspondent asked your JOURNAL, "Do bees sleep?" Virgil answers:

"Then having spent the last remains of light,
They give their bodies due repose at night;
When once in bed, their weary limbs they steep,
No buzzing sounds disturb their golden sleep—
'Tis sacred silence all."

Though he points out the monarch as

the one ruler, yet it seems that it was not known at this time that the ruler was a female, and that she laid all the eggs. Indeed, his ideas of their reproduction is exceedingly amusing,

"But (what's more strange) their modest appetites
Averse from Venus, fly the nuptial rites,
No lust enervates their heroic mind,
Nor waste their strength on wanton woman kind;
But in their mouths reside their genial powers;
They gather children from the leaves and flow'rs."

In describing their sting, he says:

"And through the purple veins a passage finds;
There fix their stings and leave their souls behind."

There is much more exceedingly interesting and amusing in his descriptions, but we close with a bit of advice that we all may take. Line 365,

"But since they share with man one common fate,
In health and in sickness, and in turns of state
Observe the symptoms."

What bee keeper who has listened for the sound of a hive which has run down and become weak, will not at once recognize the following:

"Soft whispers then, and broken sounds are heard,
As when the woods by gentle winds are stirred,
Such stifled noise as the closed furnace hides,
Or dying murmurs of departing tides."

He thinks honey, then, should be infused into the hives by hollow reeds, and gives a recipe for a sick colony, consisting of wine, raisins and a certain yellow flower.

If others find half as much amusement as I, they will be well repaid in reading the whole book, Dryden's Virgil Georgics iv.

S. S. WEATHERBY.

Baldwin City, Kan.

For the American Bee Journal.

How to obtain the largest yields of Honey.

In this short article, I will have to omit many items of considerable importance. In the first place, the bees must be well wintered, and have plenty of stores to last till honey comes again. Bees that are badly wintered, and sick, will not give satisfaction. Secondly, we must have good colonies to winter, and in the best condition possible. On this I might devote an entire chapter, but will have to omit it for the present, and pass to the most important subject, that of improving our bees. They are as susceptible of improvement as any other stock, and yet most sadly neglected. The chief object aimed at, has usually been to produce three-banded yellow bees, under the impression that nothing more was needed. Who has not noticed that one hive, or a few hives, would far outstrip—often double and even quadruple the rest? It is not uncommon to hear of single hives often producing three hundred, five hundred, and even seven hundred pounds in one season. Who would not give quite a round sum to have all of his colonies as good as the best? I have been able to get an average of nearly three-fourths as much clear through the apiary, as the best hive would produce, and without losing a single colony, either during winter or spring.

The most important part is queen rearing. Most apiarists know how to rear queens; but good ones are the object to be aimed at. To rear the best queens, plenty of honey and pollen, and enough bees of all ages, are necessary; but above all things, select your queen to breed from, and one which has given the best satisfaction the previous season. Always bear in mind that "like produces like," in bees as well as animals, there being but few exceptions; and by breeding carefully from the best stock, for a few generations, the careful breeder can produce exactly what he desires. It is of almost equal importance to use drones from none but the best colonies, allowing no drones to be reared, except in the choicest colonies. The apiarist should remember that infinitely more depends on a judicious selection of stock, and carefully excluding all others, than on any particular method of queen rearing. It is needless to say that if every colony has a queen as good as the best, and not too old, enough bees, and plenty of stores, and all other necessary conditions carefully attended to, the result cannot fail to be satisfactory.

E. C. L. LARCH, M. D.

Boone Co., Mo.

For the American Bee Journal.

Experience of "Six."

Apiculture is on the back-ground here; from the questions asked one would suppose they never saw bees. Mr. C. Parlange is still going ahead. July 30th he had 40 barrels of honey, which would average 43 gallons per barrel. I let my 101 alone (except the six swarms I have here) until June 27, when my machine arrived, (the Queen City Extractor, and there is no better or more convenient in use, and I do not except any), I was three days in getting started. I extracted 78 hives and obtained 318 gallons of fine honey. The rest of the hives were in bad condition, and the old box hives, too. I took a swarm from each one. As soon as I had once extracted, I went over them again, and up to July 20th, had taken 470 gallons.

My bees are all black and most miserably cross and mean, but I will try and have all Italianized in October. I am on a stand whether to buy dollar queens or rear them. I want 250, and it will require some help, and I cannot get it here, and owing to the state of society Northerners do not like to venture. I can raise queens

for $1.00 and $1.50, and warrant them, or $2.00 and test them; but I only say this to compare with the North, for there I would not rear queens and test them for less than $5.00, but I am not in the business this year. I am expecting an invoice of imported queens soon. I purchased 10 of one of the best breeders in Europe, and they will be from one of the best districts of Italy. I will not have any for sale. I am expecting two other varieties, and if they arrive safe, I will exhibit them at the next convention. I will say to my old friends, Mrs. Tupper and H. A. King, that I took their advice and did not come down here when I spoke of coming, but the attraction became too great, and in March I could no longer follow their advice. I am satisfied that I am in the best portion of the State. Society is not good, yet the morals are not bad, only in the way of stealing, and that is confined among the negroes, (they number 3 to 1 in this parish) who steal only something eatable, and that is their second nature, for they have been doing that for a hundred years, and they always will. There is no one molested or harmed here—only one murder in two years, yet in three parishes murders are more common than marriages, and it all comes from plots laid for political gains. Some one will incense a lot of men and get them into a riot; enough will be put in jail to insure the success of the carpet-bag, and when the election is over they are never tried.

If about forty of the carpet-baggers and their allies were hung, then Louisiana would be one among the most quiet States of the Union.

I greatly regret not having been here in February, but 6,000 lbs extracted honey in thirty days does finely. California may boast of her honey, oranges and lemons, but Louisiana will do her part towards keeping even in the first named.

I did not see the June and July numbers of the AMERICAN, but hope the contest in regard to imported queens is settled. I do *not* hold any ill-feeling toward Mr. Dadant, and I am, for one, willing to assist in sending for the chromos, and he can count me one, and send on as soon as the club is ready. The prevention of swarming is a question for us in the South. While at Mr. Parlange's he and I tried our hands at it, but did not fully succeed. I will add that keeping the queen cells cut out does not prevent it, for they will swarm without a sign of a cell. It's my opinion that the way is to combine all the modes of non-swarming; plenty of room, two stories, clip the wings, (I am strongly opposed to this, but it's better to injure them than lose them) keep them in the shade, cut out all cells —with all these precautions they will not often swarm, and when they do they will come back.

I am *thankful* for the mild climate here. The dreaded freezing of the bees is not feared here as in the North. I made many costly experiments in the North, and it now seems so long that I don't feel like speaking of it, but will write an article for the N. E. B. K. Society. I will say in time what will winter bees four times in five—to have good, light hives, covered over with some absorbent, and just before a thaw remove and dry the same; a good queen, young bees, protected from north and west winds, the usual entrance open, all capped honey, bees undisturbed—and they will go through safely. It will pay a good profit to ship bees down here, if they are near the river. They can be emptied first of October and shipped here, and returned in April, with young bees, plenty of brood and honey. I will take 150 colonies of pure Italians on the shares, to be delivered here, cut material ready for hives, and I will take half of the honey and half of the swarms for the care and labor.

There has not been anything for honey for ten days, but golden rod is now opening, and will continue for about two months, and there are thousands of acres of it. I will extract for two months yet, and then divide up. I hope to be able to make a permanent residence here, or near this place. Will give the honey resources next time. W. B. RUSH.

Pointe Coupee, La., Aug. 5, 1876.

For the American Bee Journal.

How to Place Hives.

MR. EDITOR:—I think you omitted one very important point in the directions to C. E. S., on page 26 of A. B. JOURNAL for 1876, and that is, the placing of the hives on the same stands they occupied before they were put in, which I think I will prove to your satisfaction. On the 23d of December last, a Mr. Sargent came to my house from Lebanon, about eight miles. I not being at home, he told my wife that he wanted me to come and examine his bees, and bring my extractor, as he thought several of them had too much honey; said he had had them in the cellar about two weeks, and they were getting very uneasy. The morning of December 31st being very fine, I started and arrived about nine o'clock. I found his bees in a sort of half cellar, the west side being only about two feet below ground, with two twelve light windows in front, admitting the full light of day. The entrances were all closed with blocks of wood. I told him the first thing to be done was to get them out, and asked him if he knew where each hive had stood, and he said he did not; so I set the first hive carried out on the first stand I came to, and opened it, and told him we would soon see where it belonged, and in five minutes there were

more than fifty bees flying around the third stand north from where the hive stood, and not a bee came back to the hive. Then I moved the hive to the bees, and they went in immediately. We carried out eight of the eleven hives to this stand, and let the bees pick their places, the ninth one proved to be the one that had stood there before. "Now," said he, "I think I know where the other two stood;" and we carried them out and opened them, and I went to examining the first hives brought out, and I thought nothing of the last two till near night, when I went to them and found the ground in front of each covered with dead bees. One was common black and the other Italian. The bees had really quit flying, though the thermometer stood at 74° Fahrenheit. Next morning I changed the hives, cleared away the dead bees and opened the hives, finding about a pint of dead Italians in the black hive, and nearly a quart of blacks in the Italian hive. The thermometer stood at 65 in the shade, and the bees flew lively from all the hives. I staid till noon, and there was no fighting at any of the hives.

In looking over the honey reports since August, I have been very much surprised to see so many, (even gentlemen with M. D. attached to their names) speak of smart-weed being among their best honey plants. I will not say that smart-weed yields no honey, though I have never seen a bee on it, and I suppose I had between 3,000 and 4,000 pounds gathered in about five weeks last August and September from the same plant they call smart-weed. There are two or three varieties of the plant that yields honey, resembling swart-weed in form of stem and leaf, but they grow much taller and have red flowers on an upright stem, and are mucilaginous, while the flower stem of smart-weed is drooping, like a weeping willow, and the blossom is white. A poultice made from the bruised herb burns worse than a mustard plaster, and is good for rheumatism and sprains. I do not know the botanical name of either of the plants. My bees carried in shipstuff every day last week; the last year's stocks carrying the principal part, and the latest carrying by far the most. Some of the old stocks did not carry any. Last winter I had 40 colonies, and one day in March they carried in 10 pounds of rye flour mixed with coarse wheat bran, to keep them from swamping in the flour. Two of them, which proved to be queenless, did not carry any at all during the spring. Is there any danger of their carrying in too much? Please answer in the next JOURNAL and oblige, Yours &c., C. T. SMITH,

Trenton, Clinton Co., Ills., Jan. 10, 1876.

[There is some difference of opinion about the importance of placing bees in spring upon the same stands they occupied the previous season; some insisting that the bees will go back to their old stands, the same as if they had only been in over night; and others, that it is of no consequence where they are placed, as they have forgotton all about the old location. Probably both are right. In the case given by Mr. Smith, the bees, having been confined only two weeks, would be sure to go back to their old stands; and much loss would occur from their being placed otherwise. In our own practice, we have not generally placed the hives upon the same stands which they occupied the previous season, and think we have met no serious loss in consequence; but are quite sure that in some cases the bees have at least taken a look at the old spot which was home the previous year. But our bees have usually been confined a long time in the cellar—four months or more. If they were carried out for a fly every warm spell, we should expect them to show a better memory of the old spot. Moreover, being confined for so long a period in the same cellar, they seem in some way to lose their distinguishing scent, so that immediately on first being taken out of the cellar two colonies may be united without any preparation whatever, and without any quarreling. So in such case, if a bee should go to the wrong hive, it would be kindly received. Our bees, at some time during the winter, generally undergo a temperature at, or near, the freezing point. May not the degree of cold they have suffered have something to do with the matter under discussion? It is at least, safe to put them on the old stands, *if* the precaution has been taken to note where the old stands are.

We think there is little danger that the bees of our correspondent will carry in too much meal. The fact that the oldest colonies carried in little or none, would seem to indicate that they were not in so much need of it as the younger colonies which had not had time to lay in a store; and, if so, then these younger colonies would not be likely to care so much for it after their wants were supplied. There are exceptional localities where the yield of pollen is so abundant as to be objectionable, and in such places it might not be advisable to feed meal without limit.]—ED.

For the American Bee Journal.

Honey in Small Boxes.

Several years since, when the excitement about the Extractor was at its height, and when bee-keepers supposed that it would be as easy to get 1000 lbs. of extracted honey from one hive of bees, as it would be to get 10 lbs. stored in small boxes, we did our best to convince the readers of the JOURNAL, that sooner or later they would discover their mistake and the Extractor would be thrown one side, and small boxes would be found the most profitable.

We were among the first to advocate the use of small boxes, and fifteen years ago we used and manufactured for sale, just such styled boxes as we have seen described in the JOURNAL the present winter. The three pound boxes with glass in the sides, we have made a specialty of, and we always found that this style was best suited to the markets as a general thing. Have had calls for tons of honey in such boxes at a high figure, when there was no sale at all for honey in 10 and 20 lb boxes. Your oldest readers will probably remember our articles under the above heading, and what we then said about the Extractors. We consider the Extractor a very convenient thing to have in the apiary, as even a bee-keeper on a small scale will find use for one occasionally. As for using the Extractor with the intention of getting large profits and finding quick sales for the honey, we always had an idea that the thing could not be done. We were of this opinion several years ago and we notice by the articles on this point from those who then opposed us, that we were about right. Now that the sale of extractors is falling off, they have reasons for changing their opinion concerning extracted and box-honey. We have been reading the remarks of Mr. James Heddon, before the Michigan Bee-Keepers' Association. Mr. Heddon has the right opinion of extracted as well as of box-honey, and we say amen to most of his remarks.

If we care to succeed as bee-keepers, we must use the Extractor less and small boxes more. Use boxes that are adapted to the wants of the purchaser. When a person purchases honey in the comb, he has no fear of being imposed upon, especially if it is stored in small boxes so that it can be seen. Honey stored in two and three lb boxes will always sell, and at prices, when the times are good, that ought to satisfy any bee-keeper.

As a general thing, a strong stock of bees will store fifty pounds of honey in small boxes. We have known cases, in a good season, where some stocks have stored over forty three lb boxes, and we can safely say that a good stock will average filling fourteen three lb boxes, year [illegible] year, even here in the poorest of all countries. Of course a novice cannot succeed as well as an old bee-keeper, but he soon can learn how the thing is done. We always put a small piece of comb into each box, and by so doing the bees will commence work in them several days sooner than they will if put on empty.

In conclusion, we will say that we are glad to find that bee-keepers are being convinced that the use of the Extractor is a detriment to successful bee-culture, and that the use of small boxes will give better results, and lead to success, if we are to succeed at all. We have given the largest part of our time during the past eighteen years to bee-keeping, and we find that it pays, even to raise honey alone. We know that some bee keepers have an idea that not so much honey will be stored in small boxes as in large ones under the same conditions. We never found this to be the case, but have known bees to work in small boxes when they would not in large ones. For several years we have not written much for the AMERICAN BEE JOURNAL, but to use friend Newman's words, "when the spirit moves," we will try and fix up something

H. ALLEY.

Wenham, Mass., Feb. 22, 1876.

For the American Bee Journal.

N. E. Bee-Keepers' Convention.

ADDRESS OF CAPTAIN J. E. HETHERINGTON, PRESIDENT.

LADIES AND GENTLEMEN:—Our pets are asleep, and we are again in convention, to look after their welfare, advance the science, and add our mite to the general stock of knowledge, that the business may be as profitable as it is fascinating.

We come, each bringing for the benefit of others, the lessons and experiences of another season's work; and these I find, as varied as the hives we use, the systems of management we practice, or the variety of fields our bees gather from, a sort of reciprocity meeting, all making contributions to a general fund, then each for himself, selecting from the general harvest, such kernals as seem suited to his experiments or management; and the greater this practical experience, the fewer and better his selections, for one soon learns to demand with all nicely spun theories, the practical test of more than one season's experience.

When one year ago you elected me to this office, an office our constitution makes it obligatory upon the incumbent, at the expiration of his term, to deliver an address before the association, I accepted under protest, but to-day, I thank you for the honor, as an opportunity is given me

to offer my tribute of respect, to a man who spent the best years of his in the advancement of the science in which we are all enthusiasts. I refer to Moses Quinby, of St. Johnsville, in this State, the organizer and first President of this association, who served in that capacity for five years, bringing to our meetings the greatest knowledge, the wisest counsels, the richest experiences, and who has now passed from us.

We can no longer enjoy his genial presence at our meetings. We shall never again listen to his words of timely counsel. His example remains to us, and may the great services he rendered the bee-keeping fraternity never be forgotten.

It was probably my privilege to know him as intimately, as any bee-keeper outside of his own family, and from him at the age of fifteen, I received my first enthusiasm on the subject, and to him in common with thousands of bee-keepers in the land, I am indebted, more than to any other, for practical instruction on the subject.

It is needless to mention the great amount of literary work performed by him, or remind you of the many valuable contributions to the subject, emanating from his pen, with these you are acquainted, to those who are not, I refer to his work, "Mysteries of Bee-keeping Explained," the files of the Bee Journals, the *American Agriculturist*, *Country Gentleman* and other agricultural papers, to which he regularly contributed for years, with occasionally an article to our best dailies. But this is only a portion of his work, the number of letters received and answered by him, would seem almost incredible to any of us. It was his practice to answer them all, if not too impertinent, often paying postage when the questions seemed important.

Of the great amount of gratuitous labor performed by him, to advance the science of bee-culture, the fraternity as a whole, will never know, nor can they realize, the information imparted to the numbers who flocked to see him personally, especially in the busy season.

Twice I was at his house in June, when I found there three from a distance to whom he was imparting instruction, in fact, his house was quite a hotel most of the time, with this difference, you could get no grog, neither could you pay a bill, except by imparting to, and helping others in the same generous spirit.

In thus imparting to others he found the highest enjoyment, without a thought that the time thus spent was putting his own business to a disadvantage.

He so fully realized the millions of pounds of delicious food annually going to waste, that a kind Creator had placed within our reach, simply for the taking, that he regarded any amount of labor on his part, to bring this knowledge to the world, no more than Christian duty.

It is to be regretted that he was not spared to complete the work on Advanced Bee Culture he had in contemplation. It is also to be hoped that some member of his family may give to the public, in some enduring form, a Biography, and some of his best articles on the subject.

It is often asked, "why did not Mr. Quinby accumulate a fortune keeping bees?" as he best answers this question, in an address to this association I quote the paragraph—

"Two years ago, it was stated, in the North American convention of Bee-Keepers at Cleveland, Ohio, that Mr. Quinby had accumulated a fortune keeping bees, this was promptly denied, as far as dollars and cents were concerned.

"The term fortune is very indefinite as to the amount of money constituting one, one person would have it, with one hundredth part as much as another, and then again, a fortune may consist in the accumulation of knowledge, wherewith the dollars may be gained in the future. In yet another view, a fortune may be considered in the light of treasures laid up in heaven, in the satisfaction of having done something for the benefit of man, a perpetual reward, I hope I may have done, or shall do, something that way.

"The fact that a fortune was not secured pecuniarily, by me, is, I think, owing to distribution as fast as accumulated. Whenever a fact was obtained that would benefit others as well as myself, it was forthwith given to all who would receive it."

His life has been in every sense a life of usefulness, and not wholly devoted to the interests of bee-culture, for he took a living interest in any movement he thought would benefit society, and as an advocate, and helper in the temperance work, did no mean service.

He possessed true kindness of heart, and regarded it a religious duty to make all better and happier with whom he came in contact, and regarded that life a failure that did not leave the world the better for having lived. The following little incident tells its own story. On the day of the funeral some bare-footed boys had followed down the street to the front of the house, where one of them turned up a sorrowful looking face and remarked to the officiating clergyman: "I am sorry Mr. Quinby is dead." On being asked why, he replied: "He gave us apples and pears, and sometimes" grapes." They then asked if they might see him.

Generally, sickness as a warning for preparation, precedes dissolution, but in the case of our friend, at the small hours of night when reposing in quiet slumber the message came, as though fully prepared

to enter in and enjoy the "Kingdom prepared from the foundations of the world." His wife noticed an unusual breathing, on lighting the lamp she saw the end was near. She immediately called the family, and before they reached the bed he had answered the summons,—a noble spirit had fled back to its maker, a loving family circle broken, and the life work of the pioneer Bee-Keeper ended.

His kind and generous nature endeared him to all who knew him intimately, while his [illegible] christian character and manly qualities, secured to him the respect and honor of the whole community.

Apiculture, as a science, is yet in its infancy; as one of the industries of the nation, it is only in the first stages of development.

The great mortality among bees the past four years has delayed progress.

Persons have been induced to invest in the business, without any preparation or knowledge of it whatever, under the delusion that it is a safe, sure business, with a large margin, in which one, two, three, and even four hundred per cent. may be realized on the investment, with only a moderate outlay of labor. While the experience of the past few years clearly proves that where one succeeds, a much greater number lose their investment and quit the business, disgusted bee-keepers—and this has not been without its effect.

The subject has not been fairly presented; there has been too much of the profit side of the picture served up for consideration, with only just sufficient of the other side to spice it, hence a wrong impression. And on this score, I think, our bee journals open to criticism. But perhaps it is not so much the fault of editors as bee-keepers themselves, or, rather, that class who furnish articles and reports for them.

I think any person with little knowledge of the business who would read, for one year, all that is published on the subject, and would then enter the business, would do so under a delusion.

It is, however, to the credit of some of our journals that they have space open for reports of "Blasted Hopes." But the fact is, few such reports are received.

As a rule, if we meet with failure, we pocket the loss as though too modest to tell of it. I say it is not in the nature of man to advertise to the world his failures, hence a wrong impression.

One thing I have observed, that when I have a good season, and large yield, the journals are eager for a report, but in a poor one, like the last, no report is asked for, not one special application having been made.

Our large yield of eighteen hundred and seventy-four has been thoroughly canvassed.

A correspondent in the *Country Gentleman*, in an article on the subject, makes [illegible]clear case, viz.: "There is no legiti- business one can engage in and real- [illegible]ich great profit from as in this business," and cites to prove his case one of the largest amounts on record, from a single swarm, as the product of one season's work.

But the *Gentleman* does not inform the public that fifty other stocks, under the same skillful management, and with the extractor, averaged less than *one-fourth* that amount per colony, a fact for which I can vouch.

He also cites our large yield of eighteen hundred and seventy-four, and prophesied that in the season just passed, we will greatly exceed that amount. While the fact is, the average production per colony, instead of the great excess prophecied, is less than one-third the amount gathered during the season mentioned, with better facilities for management. Will the *Gentleman* correct the wrong impression by giving the facts in the case? I trow not.

It was the custom of my grandfather, when I was a youngster, to purchase every fall a generous supply of comb honey. It was no sooner delivered than a drove of boys made raid on the kitchen pantry with spoons, as a convenience for filling their capacious jackets. On one such occasion, grandfather said, he thought some of us boys could raise honey, and added, that he would pay us twice as much for it as he did Mr. Baxter. Upon this suggestion, I followed the gentleman out, and made inquiry about the business. I was informed, there was no business in the world as profitable as keeping bees, that each hive was sure to swarm three times, and often four or five, and the swarms were worth five dollars each; furthermore, there was only the trifling expense of a few boards to "make hives of;" that bees worked for nothing and boarded themselves.

Soon after this with five dollars earned for the purpose, I purchased a colony, and entered the business under a delusion. Some one says, "That's nothing; people often live a whole life deluded."

Now I conceive this may be a fine thing, if never waked from it, but I defy any one to be long in this business without knowing the facts of the case. What I ask is that the subject be fairly presented. If this were done, I think more would be successful in the business, and the production increased in consequence. I wish to be understood that bee-keeping is a science, and as such, requires study and practical knowledge, as much as any other, to be successful in it.

The idea that bees work for nothing and board themselves, consequently all you have to do is to "hold the dish and catch the porridge," is all a humbug, and the sooner people find it out the better.

L. C. Root, of Mohawk, a scientific

bee-keeper of experience, says in the ary number of the magazine:

"There is too much of this spi[rit] getting something for nothing, or at le[ast] of realizing great results from little labor before the world. The prime reason why I recommend bee-keeping as a business, is, that those who engaged in it are sure to earn all they get," and in this he will find not a few to sustain him.

I am often asked, if I would recommend it as a business. My reply is, I certainly should, if you are adapted to it. First satisfy yourself on this point, and remember the best authority on the subject says, that four out of five of those who enter the business fail to succeed. Be moderate in your purchases, learn the business thoroughly, and I assure you a delightful field of investigation is open to you. It is a pleasant, active, out-door business—one that employs all the powers of mind and body, bringing us into close communion with the finer manifestations of our Creator's wisdom, in the nice adjustment of things, to meet the wants of his creatures.

There is much difference in the enjoyment of life to one engaged in some active out-door pursuit, breathing pure air, thoroughly oxygenating his blood, with a good appetite, and better digestion.

As compared to a man whose sedentary habits bring to his lungs the impure air of ill-ventilated rooms, with a poor appetite, and poorer digestion, dyspeptic and despondent, in consequence.

It is not the rich who get the greatest enjoyment out of life; not the millionaire who goes bustling through the world, but he who is engaged in honest toil, with more vitality than is needed for the day's business, always some to work off in fun and frolic. When I am well I am happy, and when I am sick I am miserable, regardless of other conditions. Hence if bee-keeping does not pay in dollars and cents, as well as to stand between producer and consumer, and toll the production of the world, or to exchange money at one-half of one per cent. profit, we are the happier.

And if it is as we are told, that the "chief end and object of human effort is happiness," the balance is then clearly on our side, and in favor of our business.

As an article of food, honey is of great value. "Milk and honey" has long stood a synonym for prosperity and happiness.

At the first meeting of this Association, at Albany, some of you will rember the German who was in regular attendance, and manifested such deep interest in our proceedings. At the last session, on being asked for remarks, he replied, in broken English: He could not make a speech, nor did he know anything about keeping bees, but wished to say he had been greatly interested in the subject, and that he read in his Bible of a 'promised land'—a 'land flowing with milk and honey,' and often thought this beloved America, the land of his adoption, was that land; that nowhere on the face of the earth was milk as pure, plenty, and cheap, as here." And, "gentlemen, if I can believe one-half you say, honey will soon be as cheap, in proportion to its value."

It has been rather humiliating to most of us, certainly so to me, not to be able to meet the change in climate, or whatever it may be, and thus avert the great mortality in wintering and springing that is so fatal to our business.

Great progress has been made in summer management. What now we most need is carefully conducted experiments on winter management, with results reported, to this and kindred associations, to be studied, and a system evolved therefrom that will benefit all.

I think the time will surely come, when we shall make bee-culture profitable in the poorest seasons, and winter them as certainly as farmers do their stock. The fact that some wintered successfully during the great calamity that befel our bees in the winter and spring of 1872, is an argument to this end.

It is our province to so develop the science, and increase the production of honey, that this delicious article of food may be within the reach of all. Then will the inference of our German friend at Albany be fully sustained.

For the American Bee Journal.

Undesired Experience.

CHAPTER II.

The winter of 1874 and 1875 brought its own trials. As colonies, our bees were, in several cases, brought to the verge of destruction. They perished in such numbers that again and again, we wondered how so many could be taken and a remnant still remain. However, April 1st found bees and a queen in every hive, and —thanks to the protection afforded by their chaff-packed outer boxes—the weakest handful was taken safely through the spring, and, by June, had become a thriving colony.

Although persuaded that our fears, with respect to foul brood, had been groundless, none the less carefully did we watch for a re-appearance of the evil—whatever it might be — which had alarmed us. Through April and May we made repeated and thorough examinations in each colony. More especially did we keep under surveillance the combs at No. 7, in which hive, as may be remembered, we had found dead brood the preceding August. But we could discover no trace of disease, and each fruitless search was an

occasion for renewed self-congratulations.

By the middle of June we had grown less vigilant; partly, because of a comfortable assurance that all was well; partly because the swarming season brought, as usual, new cares, perplexities and delights. Just at this time—looking into No. 7, one day, with some thought of dividing the colony—we again found dead brood. Not, as before, confined to one comb, but quite evenly, though sparingly, distributed throughout the hive. We judged that there were twenty or thirty dead larvæ to each comb. And—to us the most alarming feature of all—the caps to many of these cells were perforated! We could no longer, as hitherto, allay our fears by reflecting that all descriptions of foul brood made mention of perforated caps, and that these we had not found. Here, plainly enough, were the perforations! As to the fact that the odor was less offensive than that which foul brood is said to emit—this might be explained by supposing that the disease had not reached a sufficiently advanced stage for the complete manifestation of all the disagreeable symptoms.

Bitterly did we reproach ourselves now that we had not destroyed these combs the preceding season. For, admitting the disease to be foul brood, we at once concluded that its re-appearance must be consequent—as Dzierzon says, is not unlikely in such cases—upon "infectious matter remaining latent in the hive." Subsequent developments induced us to question this; and a strong doubt of it was at once suggested when, on the next day, we discovered that our very best colony, No. 3, was affected quite as badly as No. 7. There had been no interchange of comb—no communication of any kind, between the two. We had noticed no robbing. The fact that the disease had made no more progress in No. 7 than in No. 3, also seemed to indicate that the former could not justly be held accountable for the troubles of the latter.

That some unknown cause had produced the disease in each hive, independently of the other, seemed most probable. And it was as easy to suppose that, in the case of No. 7, it had been re-introduced, as that, through the fall, winter and spring, it had lurked unmanifested in the combs which—after all, we wished had been destroyed!

We resolved to trifle no longer; we would destroy the combs, and put hives, frames, and everything but the bees, quite out of the way. As both hives were full of brood, and the proportion of diseased brood was so small, we decided to begin by dividing each colony; putting the greater part of the bees, with their respective queees, into empty hives with new, empty frames. Nothing that had had communication with the old hives was left any-

in the vicinity of these new colon-
The hives containing the infected
s, with bees enough in each to care
the brood, were removed some distance
and placed side by side, with entrances so
contracted that but one bee could pass.
We purposed to leave them thus till all
the healthy brood should have emerged;
taking care that a new supply was not
started. Then we would unite the bees,
putting them in a new hive, with empty
frames, and—as we flattered ourselves—
should have secured three strong, healthd
colonies, from our two strong, but diseasey
colonies.

Our plan was faithfully carried out.
The new colonies were watched a little at
the outset, to see that comb-building went
right, and then, being adjudged in no need
of further treatment, were left quite to
themselves. In the old hives the healthy
brood duly matured, while the diseased
brood was removed by the bees. (By the
way, I am convinced that the bees attend
to this matter much better after the removal of their queen; perhaps because
the nurses—relieved from their ordinary
duties—have the leisure and the inclination to act as scavengers.) When the colonies were united, there remained in these
combs—twenty-two in all—no trace of anything wrong. We extracted the honey
and put hives and combs in the garret till
we would have leisure to melt the combs
into wax.

Meanwhile, the united colony troubled
us by persistently remaining very much
on the outside of its new dwelling. Nearly forty-eight hours had elapsed, when I
said to Nellie:

"Those bees seem too much discouraged
to go to work. There can be no ri
surely, in giving them a comb of hon
now."

Much pleased were we to see how
quickly the bees poured into the hive, on
receiving the honey. Much less pleased
were we, three hours later, when, every
bee having supplied itself with all the
honey it could carry, the whole colony
rushed forth, rose high in the air,—a magnificent body they were!—and moved off
in a straight line for parts unknown. It
was not particularly gratifying to reflect
that their conduct had been such as should
have given abundant warning of their design.

As, after seeing the bees safely off, I
returned through the bee-yard, feeling, for
the moment, very much in need of consolation, I paused to look at the best of the
two new colonies, made from No's 3 and 7
more than three weeks before. The hive
was very nearly filled with comb, and the
sheets of capped worker brood, with their
regularly quilted and delicately browned
surfaces, were indeed beautiful to see.

I was just beginning to realize that, in
due time, we should recover from the ef-

fects of the bereavement we had ju[redacted] fered, when, more from habit th[redacted] cause I thought anything wrong, I [redacted] pin and removed a cap which seeme[redacted] a trifle too flat. A dead larvæ was disclosed. Another, and another, and still another, were uncovered in quick succession. Then I gently replaced the comb, closed the hive, and walked into the house to—*meditate!*

I confes· that bee-keeping seemed to me, just then, nothing but "vanity and vexation of spirit."

Next day we mustered courage sufficient to make a thorough examination. We found that in most of these new white combs, a fifth, or more, of the brood was dead. Many of the dead larvæ were still white, though dull and flaccid, while many others were but slightly discolored. Usually, though not invariably, the more suspicious the appearance of the cap, the further had decomposition of the larvæ beneath it progressed. None of the caps was perforated, and, in very many cases, it was quite impossible to distinguish the caps which concealed dead larvæ from those which covered the living. Pruning—which has been recommended—would, at this stage, have been an impossibility.

Proceeding to examine the other colony, we found here also traces of disease; very slight, however, for, fortunately, the queen had been lost about a week before. This colony, after contracting its hive-entrance, we left to its own devices.

From the first, we removed the queen. A few days later, we looked in to find that the missing perforations had duly appeared—made, of course, by the bees—and that the work of removing the dead larvæ had begun. By the time the healthy brood had emerged, very nearly all the dead brood had disappeared.

We now selected from the twenty-two condemned combs, still in the garret, ten perfect combs. These we put in the place of the new combs just emptied of brood. We disinfected neither combs nor hive. We left even the quilt unchanged.

That the remedy we had supposed infallible—putting the bees into an empty hive—had failed, was, to us, at first, as incomprehensible as it was discouraging. But, that we should now hope to succeed by leaving the bees in their infected hive, and giving them presumably infected combs, will be, perhaps, equally incomprehensible to some of my readers.

The explanation is simple. We assumed that the hive and combs were *not* infected; that the disease, *in that form in which we had encountered it*, was not contagious. We explained its immediate re-appearance in the new combs by supposing that, at the time of the division, the bees had access, still, to the honey, or [redacted] pollen, which contained the principle so fatal to the brood. And it seemed reasonable to suppose that this supply must now—nearly four weeks later—be exhausted. Consequently, should the disease at once re-appear, it would prove our assumption, viz., that hive and combs were not infected, untenable. To have this proven to our satisfaction would be something gained, even though the colony should be lost.

We waited the result of our experiment with some anxiety, and were proportionately relieved, as the weeks went by without the appearance of further symptoms of disease. When prepared for winter, this colony had, apparently, as fair a chance for future prosperity as any of its neighbors.

The second colony was again unfortunate with its queen, and became quite reduced in numbers. When free from brood its combs were extracted and returned. There was no appearance of disease after this. After providing them a queen, the mere handful of bees were left quite to themselves. They succeeded in building themselves up into a colony which has wintered safely, and will, without doubt, pass safely through the spring.

Quite late in the season—about the 10th of September—a few cells of dead brood were discovered in still another colony—No. 1. The caps were perforated—the larvæ more or less decomposed. Perhaps the most noticeable feature of this case was the comparatively slight effect produced upon ourselves. (The unnecessary loss of a favorite queen, in uniting two colonies, a few weeks later, disturbed our equanimity far more.) We at once removed the queen, who, by the way, was *not* a favorite, and allowed the bees to immediately raise another. When prepared for winter, Oct. 13th, no brood had been reared. Yesterday, March 6th, we looked into the hive, finding an unusually strong colony, with plenty of capped brood; and, in the one brood-comb we examined, no trace of foul brood.

That the disease may re-appear during the coming season is, perhaps, not improbable. We have little fear, however, that we shall not be able to effect a dislodgment of the unwelcome guest before the visit shall have become a visitation. We are fully persuaded that, *when discovered in its earlier stages*, it may be very easily eliminated from the colony in which it appears, and that without the loss of combs.

It may not be out of place to add, in conclusion, that we have no bee-keeping neighbors within six miles; in fact, we have no knowledge of any within a dozen. We have never sold a colony, nor shall we sell one to be taken beyond the limits of our own neighborhood during the coming season. Our apiary is becoming quite

too large for us; nevertheless, we shall endeavor to faithfully watch over every one of our twenty-five colonies, for, at least, another year. CYULA LINSWIK.

For the American Bee Journal.

The Old System vs. the New.

It has become the custom, of late, to figure up the results of apiculture, on a very small scale. Upon this plan I will give the result of a colony of bees, or rather, of a farmer's experience in the bee business, near here, just as he recently gave it to me. He worked on the old system. While plowing in his garden last June, a very large (probably double) swarm lit on a bush in said garden. Farmer ran for a barrel, and hived them in it. In the fall he had good sense enough to "take up" aforesaid barrel, etc., which was over half full of honey, etc., particularly the etc. To say the least, he got 100 lbs. of *honey*, worth say, 15 cents per lb. Here are the figures:

Big swarm lit on a bush	$00 00
Barrel (second-hand, salt),	00 20
Time spent hiving	00 20
" "taking up,"	00 30
Sulphur	00 05
Total	00000 75
Receipts	$15 00
Net profits	$14 75

Gentle reader, what per cent is that? Please tell. I am a poor scholar and can't work out *very* profitable problems. Whose "patent Gum" will beat the "old system," after all!

This neighbor will probably trade his farm for 10 colonies of *black bees* in salt barrels; then run up to 10,000 colonies (all in salt barrels),—but hold on! these second-hand salt-barrels will cost $2,000, and what bee-man can show $2,000?

A LETTER

from a bee-keeper reads as follows:

"DEAR SIR.—I see in the JOURNAL that you take a different course from most apiarists, and instead of praising the business, you 'throw cold water' upon it. I am informed, by good authority, that you have made, and laid up, money at it, which is plain to be seen—the reason you discourage it. A California honey producer is doing precisely the same thing: He has also been successful.

* * * * *

Yours etc., ——"

Everything is evil.

I wish my friend would get this "good authority," and come here and help me find the money that I have "laid up." It must have *gone up* higher since I "laid it," for I could not reach it if I needed it to buy bread. Why could not our brother [illegible]ne that those who have met with [illegible]partial success, know by what hard [illegible]and untiring energy it has been [illegible]ned, and thus know better than to credit it to the business. But for argument's sake we will suppose that our friend's views are correct, and that the "successful" ones cry "poor business." Then it naturally follows, that the ones who cry, "very profitable and neglected pursuit."—"splendidly adapted to women and invalids."—"very little work about it," and all such nonsense, are not successful, or that they have *some other reason* for "praising" the pursuit. I have never thought that apiculture *could* not be made a business as paying and respectable as many other lines of production; but that "anybody" who can pay for a patent hive, queen bee, bee-feeder, moth-trap, non-swarming attachment, queen cage, queen nursery, tin corners, and one thousand more traps, too numerous to mention, can set down a few bees "most anywhere," and SUCCEED, I do most emphatically deny.

Very *many* conditions must be present, or success is only one of the things that is *going to be.*

These conditions are only *known* to those who have "been through the mill." The very requisites to succeed are the last to be imagined by the novice.

JAMES HEDDON.

Dowagiac, Mich., Mar. 6, 1876.

For the American Bee Journal.

How to Ship Box-Honey.

We make large crates that will hold two hundred pounds. They are high enough for two tiers of honey-boxes, and the crates have a three-inch strip nailed on each side, near the top, with clinch nails. These strips are long enough to extend past the ends of the crates three or four inches, forming handles to carry them with.

We put in a tier of honey-boxes, packing them tight together with the bottoms up, then a layer of heavy paper to prevent the upper tier from leaking on the lower. After the crates are packed full, we nail some strips across the top, so that the boxes cannot be lifted out, yet can be readily seen. We haul the crates to the depot in a light spring wagon, and require the parties to whom we ship to, to furnish the same to haul them to their place of business. All the express wagons and drays in the cities have such heavy springs, and the pavement is so rough that it is almost impossible to draw honey on them, even a short distance, without breaking it. I hauled one thousand pounds of honey on a two-horse spring wagon sixty-five miles in a day and a half, without injuring it, and had the same badly broken by an express-

man hauling it less than a half [redacted]al position. And, Mr. Editor, just grocers and honey dealers h[redacted]w Bee-keeping, sweet in her splendor spring, delivery wagons, and in s[redacted]d rich in the perfume of Buckwheat I always request them to haul my[redacted]nd Bass-wood, holds out her magic hands with such wagons, and seldom have any to the charmed Novice—the would be Bee-broken honey. G. HILL. Keeper—and in tones so sweet—enquires, "Would you not like to invest in a rural paper devoted to honey culture, won't cost only 25 cts. and will put you on the right track, keep you posted as to the price of honey and just how much to take without bursting your cisterns. It also will show how many feet longer is the honey sucker of the imported than the native or vulgar black bee—and really don't you love the smell of red clover? Well these long honey sucker bees just take honey out of red-clover as humming-birds ravish the sweets of Bouncing-Bess. They are a cultivated race—not unlikely, the same beautiful bees taken into the ark." You see their *gentle* ways would have won the *admi*-ration of the great and distinguished patriarch and his beautiful family. His eldest daughter had blue eyes and was a great Pet with her papa and was a match for Capt. Cook in entomology. What she didn't know about *beetles* wouldn't make —no lie! it wouldn't—make a primer.

Kendallville, Ind.

For the American Bee Journal.

Another Danger.

MILK AND HONEY—APIARY, BEESWAX CREEK.—March 12, 1876.

From the various conventions, and the correspondents of your valuable paper it seems the much advertised extractor has for the present, like other things, had its *run*.

From the same source it also appears that the only *real panacea* for low prices is the royal *seal* of the worker bees. This it is said with *small gilt-cornered boxes* will to all time secure the lonely producer against an overstocked market, and secure the very remunerative price of twenty cents per pound.

Now, Mr. Editor, allow me to state that "there is no royal road to fortune."

It is also reported that extracted honey will not sell at a greater price than 9 cents per lb.—which may be true—yet even this like other prophetic visions—for instance, 20 cents per lb. for fancy glass and wood and *melted beeswax foundations* may never again meet that modest price.

Bee-Keepers like spiritual mediums have ever been a prophetic class; nor is their end yet come—Jasper Hazen counts the heads of clover on a ten-acre lot and lifts up his reverend head and prophetic are his words. And right here let me observe a few small straws which aid the Bee-Keeper Prophet in "making up his slate."

A once noted "Bee-charm" vender and keeper of bees, is now a Dr.

A twice noted Bee-Keeper, once for catching a honey shower—once for a *Knew I Dear* Hive, has turned to Doctor also, and water! oh, water is his *Pill*.

A once noted writer for the "Old and reliable" Bee Journal—who secured also *one* honey shower in cisterns and such other small bottles as his P. G. could furnish, is now engaged on "our homes" with a prophetic view of editing a religious journal devoted to B-agriculture and dyspeptic stomachs.

While I have named only three distinguished straws, they are enough I trust to show the direction of the wind, and to justify even the casual observer in believing that it pays better to *advise* others than to raise honey even at the rate of 500 pounds to the hive. Various occupations have developed remarkable genius in men, and most of these trades have been the source of large fortunes and high

This charming blue-eyed daughter wanted to have her honored sire sell elephant's eggs, from imported mothers, at two cents apiece, or a dollar per square inch, postage paid; but the old gentleman had not heard of the tiny shoe worn by Ex-Secretary Mrs. Belknap, and quietly arranged his vineyard and set out a large number of those distinguished hexagonal Concord grape vines, which soon after enhanced the price of smoky paper to such an extent that it could not be afforded at so low a price—25 cts., after paying the revenue on the wine. This fact made another change of base necessary to meet current expenses. Recourse was then had to those primeval shrubs, in common phrase called basswood, and on went the improvement, excuse me, ("evolution,")—and up went smoky paper to 75-100 of a square inch of elephant eggs from imported mothers. It now seemed that Blue Eyes was happy; P. G. as sweet as the nectar of wild aster and golden rod. But, alas—in modern as in ancient days, "things grow by what they are fed on."

Those magic corners which had swayed Bee gums—and forests and grape vines—and numbered only six, must be increased, the evolution must go on; Hexagony must evolve Octagony, and smoky paper, once only 25-100 of an inch of elephant eggs from imported mothers, must evolve 100-100 of an inch, or "our homes" would be desolate—even the exceeding low price for evolution of bean soup would not mitigate the disaster.

I commenced to write about—well—I have forgotten my text. I think it was those *delicate* beeswax comb foundations

to be used in starting obdurate and [redacted] n the poor unsuspecting bee. nacious insects on the right track.

Now, Mr. Editor, just here let me p[redacted]ce—perhaps a few of those—in my public plea—and you please giv[redacted]quest "stamp for cincular," have us all a lift—if for no loftier reason than already smelt the simoon in the air. to serve your own interest. Honey comb is one thing, beeswax is another, and very different thing. Butter (I mean fine butter) is, as all know, a very palatable commodity. But if we melt said fine butter—it is butter no more—it is *greas*[redacted]. The same thing holds true of nice honey comb. *No wax foundations* can be made which will not *contain enough wax* to build a comb two inches thick.

C. O. Perrine used to advertise the evil effects of honey comb on the delicate membranes of stomachs highly evolutionized, and his card purported to be from that "*Distinguished Physician*" we hear so much about.

If honey comb is not compatible with highly evolutionized stomachs, what will be the effect of wax foundations on such delicate and highly evolutionized people as fancy 20 cents honey is put up for?

Echo answers, Please Mr. Beeswax—no more foundations on my plate—I prefer the superstructure on the "untoothsome extract."

Really, I think you will be quite out of patience, Mr. Editor, at the idea of furnishing so much evolution to my orthography, but my early evolution was not favorable for spelling matches.

My brag gift is in not saying what I mean, but here allow me to switch off and say a few words about The new Elephant—probably the offspring of the one above referred to. I mean honey and the enormous dividend it brings. Whisky ring and sutler posts are mere nebulæ compared with it.

Much advice has been given gratuitously on this at present all-absorbing topic. Conventions have appointed committees to sell it for them, and in such way made effort to assist those who have been so unfortunate as to get a snuff at the ambrosial bag. Some have pointed to this and some to that as the cause of the present low prices. Some have—in consideration of the fact that it costs nothing to advise others what to do—spoke their piece and feel as if the load had been lifted from off their shoulders. All are now waiting, I presume, for me. And, Mr. Editor, were it not for my exceeding modesty, I believe I would just let the cat out of the bag right now. As it is, I will, with remarkable candor, say that probably there is no royal road to success, and that very likely people who have arrived at that point when the low price of honey will not justify further pursuit of the enchanting pastime—will know what to do—and it may be that some future historian may record the fact that "*industry* has been diverted from its natural course and

Would [redacted] be well for people who have machi[redacted]y adapted to their locality and have done well, to continue on quietly and economically and get rich? This last is a question merely. My interest would say, "Send stam[redacted]for circular."

T. F. BINGHAM.

P. S.—Italian queens made to order. Orders filled in rotation.

For the American Bee Journal

Sundry Items.

MR. EDITOR:—In your last issue there is an account of the proceedings of the Mississippi Valley Bee-keepers' Association, and one of the interesting questions discussed was: "Do bees make or gather honey?" Prof. Riley said, "He was satisfied bees made honey." Now, as this is an age of progress, we want all the light we can get upon this unsettled question; and as Prof. Riley is a naturalist and a close observer, will he be kind enough, at the next meeting, in April, to give his views, fully, upon this subject? As the Mississippi valley covers a good deal of territory, would not the "Missouri Bee-keepers' Society" be more appropriate than the name they have chosen?

In speaking about societies, I may here say,—and so say all with whom I have conversed upon the subject,—that it would be far better for the National Society to adjourn *sine die*, and let every State have its own Convention.

Allow me here to say, Mr. Editor, that I am more than highly pleased with the back volumes of the JOURNAL you got bound for me, and three makes one beautiful volume. I would urge upon all to get their back volumes bound, for the price is so low, I do not see how they can be done for the money. My bees have come out as clean and dry as I ever saw them, but rather weak, owing to the numbers lost in the house during the warm spells.

ARGUS.

For The American Bee Journal

Feeding Bees.

MR. NEWMAN:—Dr. Wm. Mitchell, of this city, informs me that some twenty-five years ago he purchased a swarm of bees in a box hive at a sale. He carried them home on horse back. They were destitute of honey; his wife baked some corn bread; he cut off the top crust and poured molasses over the bread and placed it under the combs. The bees ate both the molasses and corn bread, went through the winter, and gave him a large swarm the summer following. T. G. MCGAW.

Monmouth, Ill.

For The American Bee J[illegible]

House Apiary.

In the February number of the AMERICAN BEE JOURNAL I charged "Novice" with a want of candor and [illegible] dealing in regard to the house apiary question.

His answer in the February number of *Gleanings* demands of me a few words by way of correction and explanation. He does not attempt to answer any of my charges, but makes a desperate effort to extricate himself from a very awkward position. And, like the man struggling in quick-sand, only sinks the deeper.

He says, I write in a way that shows that I feel as if I had been wronged. To this I would only say that those who have read *Gleanings* and the AMERICAN BEE JOURNAL the past year, know as well as I do that I have just cause for complaint, and yet I feel that the greater wrong has been done to the cause of bee-culture.

If every attempt for the advancement and elevation of our profession is to be met with such a spirit, we shall not see the progress that we might reasonably expect. Every member has a right to demand a *candid* as well as *thorough* examination of every question that looks to its improvement.

I believe that scientific and profitable bee-keeping is yet in its infancy, and that it is capable of being developed into one of our greatest national resources. Bee-keepers as a class are industrious, intelligent and persevering; and if they work harmoniously to one end, all opposing difficulties *will* be overcome.

Novice next says, "Had I told Mr. Coe in plain terms, just what I thought, when he was a guest at our house and when I was a guest at his own, there would probably have been no misunderstanding."

Why was it that he did *not* tell me *just what he thought*, when that was the very thing I wanted and asked for? I told him I was then engaged in putting up "*trial apiaries*" in different parts of the country for the purpose of having the system thoroughly tested before offering it to the general public, and that I asked for it nothing but the severest criticism—wishing it to stand entirely on its own merits. Why then, I ask again, did he not, for the sake of bee-keepers in general, and his "dear readers" in particular, speak out boldly, and thus prove to them, that they had placed their interests in the hands of a faithful keeper. There was certainly nothing in a letter I wrote him, the day after his visit that could have induced him to make a *favorable report* without regard to facts. It occurred to me, that as he had been *my guest*, and I had been "very friendly indeed" and "very liberal in offering the right gratis," that he might be led to speak more favorably of my apiary than his relations to his "dear readers" would warrant. So I wrote him, reiterating what I had said to him before, and charged him to say nothing in its favor but what he believed would be fully verified by practical tests. Yet, in the face of all the facts which are fully corroborated by all that I have said on the subject, both in *Gleanings* and the AMERICAN BEE JOURNAL, he has the unblushing affrontery to say "Prof. Cook *did* tell me that he feared I had not given Mr. Coe the credit he deserved; but in justice to my readers, who certainly should have facts, without any regard to the friendly way in which Mr. Coe had treated *me*, I can but think that my report of that visit did him *more than* justice, and hence my present inconsistency."

If his inconsistency, to say nothing of willful misrepresentation, is not yet fully apparent, I think it will be after reading *the report that did me more than justice*, which can be found in July number of *Gleanings*. I extract from it as follows:

"On the 10th (June) we paid a visit to Mr. Coe, the patentee of the house apiary. The building is very pretty and tasty, and the bees going out and in through the sides with the square of different colors painted over each entrance, gives an affect on a grass lawn, that to our eye is *decidedly* ornamental. On looking into the interior the visitor is even more delighted, for arranged on broad shelves on either side, are observatory hives, having a glass over the outside comb, that gives a view of all the workings of the hive. The frames are close fitting sides. Mr. Dean who accompanied us, was so disgusted in his attempts to open and close a hive without killing bees that he denounces the house altogether unless it be for box honey."

Now Novice knew very well that the particular hive used had nothing whatever to do with the merits of the house, as it is adapted to the use of almost any style of hive. The fact is, that before the report was written, he had resolved to appropriate to his own use the property of another, without the owner's consent. Very soon after visiting my house apiary he built one himself. The walls of his house are a series of dead air spaces made of paper. Of whom did he get that idea? He says he got his idea of a house apiary from Mr. Moon. When Novice decided to appropriate to his own use, without my permission, what had cost me much study, labor and money, it was quite necessary for him to make a plea in justification of his course.

The following are a few of the more prominent points: "Similar houses have been in use for years." "Mr. Dean denounces the house." "Coe's apiary seems to embody a mass of complicated fixtures that would be worse than useless to us." "We think Mr. Coe's claim much too strong." "Since I have mentioned the

the house apiary in GLEANINGS, mo[illegible] than a dozen have come to light." "I did admire and do now his house apiary but declined then and should now, one like it for real use." "We are not able to discover any thing in Coe's apiary that has not been in use." "Mr. Coe gave us no instructions for building our house apiary."

Why all this *special pleading?* Well may Novice exclaim, "hence my present inconsistency."

> "Oh what a tangled web we weave
> When first we practice to deceive."

As a proof of his great regard for his "dear readers" (I am one of them) Novice says, "I do dislike to see hard earned money go without bringing a fair equivalent." He evedintly refers to the dead air spaces and other fixtures of his house apiary. He also says, "It is very probable that in my dislike of patents, I am looking with prejudiced eyes." That certainly can't refer to me for I never received a dollar for a patent, never dealt in patents, not even *metal corners.*

Again Novice says, "When one sets out to defend himself he is pretty sure to do as I have done in the above lines—made it appear that Mr. Coe is all wrong and that I am all right."

True, he has done it up pretty well, and "made it appear," and yet one more item might make it appear still plainer.

I wrote an article for last November number of *Gleanings.* It was not refused as it might have been with some show of justice, but a part of it, only, was published—changing its whole form and meaning. I am so opposed to occuying our journals with personal affairs, that I would have endured in silence even this gross injustice, if it had been permitted to drop there, but it was followed up till I was obliged to speak.

The article was as follows:

DEAR NOVICE:—On page 131, GLEANINGS for October, R. H. Mellen asks of you information regarding house apiaries, and in your answer you take occasion to say that Coe's apiary seems to embody a mass of complicated fixtures that would be worse than useless to you, and on another page—same number—you very flippantly remark, "We fear we have been a little rough on friend Coe's apiary on page 131." Now if your answer to Mr. Mellen is a candid, straightforward one, intended to forward the best interests of our fraternity, I will not call it in question.

I desire for my apiary the severest criticism, and the most thorough practical tests, but it is desirable that they should be made in *good faith*, and with a view to the improvement of our profession. The "expensive ventilators" spoken of, if made of wood, would not cost more than two or three dollars, and the painted entrances exceed fifty cents. More expensive [illegible]uld be used but they would be no [illegible] except for the looks. The house [illegible]lf may be built of any form or dimensions, and any style of hive can be used in it though I prefer the close fitting frames, without box, or the simplicity with some modifications. For common use, and particularly for box-honey, the form of the building should be rectangular, that form is more convenient and *very much cheaper* than the octagon. When the extractor is to be used, and one chooses to add the extra expense, the rectangle and hexagon combined is the most desirable. A house 9 x 15 feet will accommodate fifty hives and give ample space for eighty 1½ pound surplus frames to each hive, and for handling the hives to advantage. Such a house built according to my plans will cost at least a third less than a building of the same dimensions built in the usual way, and less than fifty *good* outdoor hives.

As to my claims in THE AMERICAN BEE JOURNAL being "*much too strong,*" I can only say, that the matter is in the hands of the bee-keepers of the country, and I have no doubt they will decide it properly. If the claims are sustained—as I have no doubt they will be—it will work an entire change in the mode of bee culture, and save millions of dollars every year that are now wasted; and will also open up an avenue of healthful and remunerative employment for the ladies!

Montclair, N. J., Oct. 12, '75.

Only the latter part of this article was published commencing with "I desire for my apiary the severest criticism." There are several other points in Novice's article that demand a notice but I will pass them, as I have already occupied too much of your valuable space. J. S. COE.

For the American Bee Journal.

Stray Thoughts.

Well, the season is over and I did not reach the 30,000 lbs. I have taken 20,375 lbs. and increased the 150 stands to 317. This is doing quite well to begin with the season half gone. I give all fair warning now though, that next year *I will excel any bee-keeper in America.* That is, I intend to take more honey from 200 stands of bees than any one else will from that number. All take fair warning and be prepared.

Although the bee-keepers of the U. S. are advancing rapidly in the Science of Apiculture, yet I think there are many things to be learned yet. One leading idea is that of

THE PROPER TIME TO DIVIDE SWARMS.

The popular theory is in the beginning of the season. But where both honey and increase are desired, I think this a great

error. The season here has been rather an unfavorable one—and most Apiarists divided their bees early, and the poor season coming on just before the time for storing surplus; the result was that when the season did come for storing surplus honey, the bees were not in condition to store, and failure was the result. The plan I described in the Sept. No., I think far the best. That of waiting until the best of the season for surplus, building the bees up in the meantime, then remove the queen with two frames of capped brood and a few bees, to a new hive. Then I would add I think "Novice's" lamp nursery would come in nicely and the bees would be helped along considerably, by slipping a young queen into the entrance of the old hive. As I stated before, the bees would not miss the loss of the two combs, and while the hive was without a laying queen the bees would store much more surplus than while they had one. Besides the old queen with the two combs would very soon be in a condition to build comb and will soon strengthen up to a full sized colony. The old queen's wing should always be clipped.

If honey is desired as well as increase, I think the above plan much preferable to "Novice's" plan of giving the new queen to the new swarm or nucleus. I have never tried the "Lamp nursery"—I always introduce a cell, think I shall try the nursery the coming season.

Wishing all eastern brethren success in wintering, I am as ever, AMATEUR.

Anaheim, Cal., Oct. 8th, 1875.

For the American Bee Journal

Extracted Honey.

In the last number of the JOURNAL we see that some bee-keepers, and more especially, Messrs. J. Heddon and H. A. Burch, are strongly opposed to the production of extracted honey. In fact, from what they say, the beginner in apiculture would infer that the production of extracted honey is a real curse for the practical bee-keeper.

It may be, that in some localities the extracted honey is of slow sale, especially when it it is not known; but wherever the people become accustomed to using it, it soon becomes a readily salable article.

We have been using the honey extractor every season, regularly, ever since it first made its appearance before the bee-keepers of the world, and to-day we prize it more than ever. When we first offered our extracted honey for sale, we sold but little of it, for the American consumers were not accustomed to it, and in the seasons of '68 and '69 we did not sell more than 200 lbs. of it, around us. Now we sell over 2000 lbs. of honey right around home. Why is that?—Because we have created a market for it; because it has given satisfaction.

We have never had much difficulty in getting rid of our extracted honey, at prices ranging between 13 and 18 cents. We would much rather produce extracted honey than comb-honey; 1st, because we can produce more of it; 2d, because it is more easily transported.

We cannot agree with Mr. Burch when he says, that honey is essentially a luxury. Honey has been a luxury as long as consumers could not get it at reasonable prices; but now, wherever good extracted honey is retailed by the producer at 15 cents per lb., it is becoming a staple article of diet. Wax is indigestible, therefore unfit for food, and this is the reason why good extracted honey will always be more likely to become a customary article of diet than the fancy comb-honey.

If the discussion of the adulteration of honey, has, in any way lessened the demand, it has lessened only the demand for adulterated honey, and has increased that for the real genuine, *granulated* article.

Mr. J. Heddon says that he believes that the extractor has kept us in ignorance of the true principles of comb-surplus production. He might more truly speak, if he said so of himself alone; for he should remember that there was a time when the extractor did not exist, and of course, at that time we had quite a chance to test the true principles of comb-surplus production.

Let Mr. Heddon test and ascertain the true principles of comb-surplus production. We will tell him beforehand, that we have tested them long ago, and that we found that the production of extracted honey was much more profitable than that of comb-honey.

In hunting among the back volumes of the old AM. B. J. we find an article from Mr. Heddon, (vol. 6, page 159,) in which Mr. Heddon shows that he likes theory. Let us, then, give him some theory on the subject of the extractor.

All, or nearly all, the most renowned writers on bee-culture agree that wax costs to the bees between 10 and fifteen pounds of honey for each pound of wax secreted. Taking it for granted, then, that the combs cost to the bees such a large quantity of honey, the reader will at once see what advantage there is in returning the combs to the bees. But this is not all. By the production of comb-honey, the bee-keeper keeps no empty combs for his bees to fill, and when the season begins they have to build their surplus combs anew. In so doing there is a great loss of time, for if, when the honey crop begins, they have no empty cells at their disposal, they have to remain idle until enough wax is secreted to manufacture some combs. Besides, especially with the Italian bees, when the

honey crop begins the bees fill up the brood chamber so thoroughly that there is no more room for the queen to breed, and without the use of the extractor the bees would be unable to keep up their numbers by reproduction, and would dwindle down and die away; simply by too much wealth.

Again, when the bees harvest honey late in the fall, and have not time to cap it all, the honey which remains uncapped, *if not extracted*, will absorb moisture and will destroy the bees that will feed on it during the winter, as Mr. Heddon had a chance to see during the winter of '70-'71. This we gather from Mr. Heddon's own testimony, page 261, vol. v. of the old and valuable AM. B. J. (48 colonies reduced to 6.) Why then should we oppose the use of the extractor and the production of extracted honey?

Mr. Heddon seems to be afraid that if too many persons engage in bee-keeping, that business will become unprofitable, —because too much honey will be raised. My impression is quite different. If much honey is raised, the American public will become used to it, and will regard it as a necessity of life, and it will be one indeed.

Let us say then, to the beginner in bee-culture: Do not be afraid of bee-culture; it is a profitable business, notwithstanding all that Mr. Heddon may say to the contrary, and the best proof that it is profitable is, that Mr. Heddon still sticks to it, although he has had as many drawbacks as any one of us.

Raise extracted honey, and sell it at home, or around home. Do not extract it when too thin (a little practice will soon teach you when to extract). Keep it clean. Teach your customers to use granulated honey, and to reject the liquid article, and you will not need to be anxious for a honey market.

Do not be afraid if your neighbors go to keeping bees, for there should be room for all,—except the dishonest ones,—and the editors of past, present, and future bee-papers, with their proselyting, will never do so much harm to the business as one or two dishonest dealers or adulterators, Mr. Heddon to the contrary notwithstanding. Go ahead, honey producers!

C. P. DADANT.

Hamilton, Ill., Mar. 10, 1876.

For the American Bee Journal.

Shall the National Society be Abandoned?

From the lack of interest taken in its last annual convention held at Toledo, I should think it about at its end, so far as usefulness is concerned. There was only about a baker's dozen of members present, that had attended former meetings of the society; the rest consisted of "new recruits" from the country around Toledo.

At the last session, on morning of third day, the subject of abandoning the Society was discussed, and the utter hopelessness of making it further a success generally admitted, except by Mr. Zimmerman, who insisted that another meeting be held, and Philadelphia be the place of holding the next annual convention. Mr. John Z. Smith suggested that as the National Society was a defunct institution, he thought it would be well enough to send it to Philadelphia for respectable interment, and he named G. W. Zimmerman for President, who was elected unanimously.

At the close of these proceedings, I, with several others, left the hall to visit the apiary of B. O. Everett, Esq., in Toledo, but as far as I could learn, there was but one member (the present incumbent of the Presidential chair.) that intended to go to the Philadelphia meeting.

It might be well enough for amateurs in bee-culture to attend, but the large producers of honey and real bee-men, cannot leave their bees during first or second week in September, without serious loss, as it is just at the time to put our bees in condition for wintering.

DANIEL KEPLER.

Napoleon, O., March 17th, 1876.

For The American Bee Journal.

To the Public.

Grateful for kindnesses shown me in various ways, in addition to what has appeared concerning my connection with the Italian Bee Company, and Mrs. Tupper, I desire to remove some probable misconceptions.

My partnership was never what was technically called "*silent.*" It was published in our first circulars, and I never consented to the suppression of my address in any circular or advertisements. Fully trusting Mrs. T., I managed our Logan apiary and shop, and filled orders as they were sent to me. It was not until in Jan. last that I suspected that there was any design in what had been represented as "*printers' mistakes.*" Up to the time of the dissolution of our partnership, my part of the expense of the business largely exceeded my receipts. Without making any claim upon the profits of business in 1875, no customer of the Co. is likely to lose one-hundredth part as much as I do by actual money and stock gone, and that even if I were to refuse to settle those claims upon which I have received nothing. My own assets in settlement are simply the name of the Company and its possible future. Yet in all unfilled orders I expect to meet honor's call *as far as means will allow.*

J. E. ROCKWOOD.

Logan, Iowa, March 15, 1876.

For the American Bee Journal.

Sundry Thoughts.

Noticing your request for such information as your readers would be interested in perusing, I shall endeavor to give such facts as have come to my observation in the past year. The meeting of the N. A. B. K. Society, held in our city in 1874, left us in high expectations for the ensuing year; our bees were in good condition, most of them having abundant stores, and many of us had good reason to think a good supply of the nectar would be secured from the surplus honey left by the colony after they used what they required for wintering; but, alas, a sad disappointment was in store for many of the apiarians of this section. The winter set in early and very severe, and ranged from zero to 20° or 25° below for some weeks at a time; in fact, the ground was penetrated by the frost to the depth of *four feet* and over. Is it any wonder that our bees that were on summer stands consumed their stores within reach of the brood nest, and then literally starved to death before the bee-keeper was aware of their condition? The few stands that lived through this terrible trial had yet further struggles for very existence, for when the warm sun and showers of April called forth vegetation, and the flowers (we had no blossoms of any kind) began to come forth, a heavy frost, about the first week in May, cut off all hopes for a pasturage for our pets, and although some colonies whose condition had been inquired into in time, and come out strong in the spring, succeeded in getting sufficient stores to carry them through this winter, but the bulk of the bees in this neighborhood had to be fed in the fall to enable them to survive the winter. So far, this winter has been very encouraging; the weather has been mild, and the bees have consumed but little of their stores; the fine weather of the past few weeks has given them many occasions for healthy flights; indeed, on New Year's Day, and for some weeks previous, they were carrying pollen from the dandelions and spice-wood. New Year's Day, with us, was like May, and a neighbor, who had some empty hives in his apiary, secured a fine large swarm. Just think of it; a swarm of bees on the 1st day of January. I presume they were a colony that had failed to secure a supply of stores and had deserted their old habitation in hope of bettering their condition, which they did, of course, as our friend, being a practical man, was not long in furnishing the necessary provisions for the support of the little strangers. I have decided to make no more experiments with wintering weak swarms, but will, in all cases, double them up in the fall, preferring to have three or four good strong colonies to ten or twelve weak ones. I lost, this winter, my finest queen, by some cause or other unknown to me. I at once doubled up with another colony. Hoping that fruit and other blossoms may be a success this year, and that the old and reliable BEE JOURNAL may be very successful, I remain, Yours truly, W. J. SHERRIFF.

For the American Bee Journal.

Albino Bees.

MR. EDITOR:—I dislike misrepresentation, from my very heart I dislike it, and think the man who first invented a humbug should be hung in effigy with his inventions tied to his feet, that his neck might support him and his works together. My reasons for thus sweeping at the whole system is not that I believe it totally useless, but that it does more mischief than good, and destroys more fortunes than it creates honestly. I am not in the habit of using harsh epithets, nor do I wish to step on anyone's corns, neither do I take pleasure in wantonly treading on the innocent worm crawling at my *feet*. But when I see a bare-faced humbug, I feel very much like putting it on the ground and placing my stoga square on its neck. I see the following going the rounds of the Bee journals: "The Albino *pure* Bees, the best in the world." This savors much of humbug in our ears—*Albino; White Albino Bees, White Bees*, what are they! Are they a distinct variety of the Bee; a freak of nature, or a cross between two varieties? I am inclined to the latter opinion. I have been experimenting upon them for three years past and as yet I have not been able to get a single queen (and I have reared scores of them) who will duplicate herself. But on the contrary they produce eggs from which hatch every variety from the finest white queens and bees to the straight grey bee, except perhaps they may have white fur on their body. Now why are they the best bees in the world? They may be one of nature's beauties when seen frisking in the May morning sun, but is beauty the only grace that entitles them to be the best bee in the world? Or perhaps the young gentleman or lady who dote upon the sweets of nature, but who instinctively *shrink* from the *sharp points*, when they see they can take out the combs and handle the bees as if they were flies, yet perhaps will not find much surplus honey—may be led to say, "Oh they are the best bees in the world.

The queen-breeder also may conclude they are the best bee in the world, because of the short time she lives, for I have not yet had one single Albino queen who (if she survived the first season) didn't become a drone-layer and finally disappear before the end of the second season, therefore making a market for another. As Barnum says, "Humbugs are what please

the American people," so perhaps we had better *all* throw up the hat for the "Albino Bee, the best in the world."

D. STAPLES.

Columbia, Tenn., Feb. 4th, 1876.

For the American Bee Journal.

Comb Honey vs. Extracted.

My bees have wintered, so far, very well. I have lost only three queens. Every hive is strong but one. This one was foul broody last fall, has only bees in three spaces between the combs but brood in all stages, while I found only eggs in a few of the balance of my hives. I had foul brood in two of my hives last fall. They appear to be cured, however, entirely.

Honey trade was very satisfactory with me this winter as far as quantity was concerned, and if I may judge by the increase of demand in the retail trade, my trade will be better next season.

Is it not amusing how some of our brethren will jump from one extreme to another? It is not long since when every body struck out for extracted honey. Five hundred pounds to the hive; that will give us a fortune. Yes; The time will come when we shall realize a thousand pounds of honey to the hive, said one of our celebrated (?) teachers in apiculture. We do raise a respectable quantity of honey, and honey has since become an article of trade. Extracted honey is fast getting to be a competitor to cane sugar, while its good qualities are appreciated more every year. Immense quantities are used for table use and for manufacturing purposes, quantities of which we had no idea a few years ago. And yet, we are not happy. How we have sobered up in the face of all these facts! Bee-keeping is a failure, the honey pump is a humbug and a detriment to bee-keeping, says one of our sanguine brothers. Let us all raise comb honey, etc. About such language we see in our Bee Journals at the present time. There is hardly ever anything gained in business, by jumps. It requires energy and perseverence to carry on any business, and there is no reason why bee-keeping should be an exception. Every bee-keeper should raise comb honey and also machine extracted honey, he should take pains to keep each kind of honey by itself and to offer for sale each kind in as attractive a style as possible.

As a business man I know that I must hold my wares only at such prices at which they will take, if I want to sell, and the same holds good with farmers and bee-keepers. It pays every bee-keeper best to work up a home trade, as his honey will bring him the best price from consumers, and the balance only, he should offer to a dealer, who—must buy cheap, of course. It is expensive to handle honey, and more so than people generally think.

There is no mistake but that the machine extracted honey is the only pure honey possible, and it will be *the honey in demand* after a while. Comb honoy will remain a fancy article only, but it sells also; let us therefore, each one of us, raise our share of comb honey and let each one of us raise more of the one or of the other, just as he thinks best. But don't let us condemn everything because other parties don't grab for our lot first. Comb honey will always be a risky article. It will be damaged if kept over a year; not so with machine extracted honey. And if ever an overstocking of the market takes place it will be with the former and not with the latter.

Cincinnati, O. CHAS. K. MUTH.

THE BEE AS A SCAVENGER.—A mouse found its way into the hive of one of our amateur bee men, not long since, and the intruder was found dead, and completely imbedded in wax. The mouse, having a sweet tooth, crept into the hive to steal honey, but unfortunately aroused the inmates, and before he could find his way out again, was stung to death. By-and-by decomposition set in, and Mr. Mousey began to disseminate a bad smell, which bees cannot tolerate; but finding it impossible to hustle him over the ramparts, as they do other nuisances, they went energetically to work and sealed him up in wax, hermetically sealed him, in fact, so that not the slightest odor escaped, to make the hive unpleasant for the high-toned, extremely neat and cleanly inhabitants.—*Schoharie Republican.*

☞ Mrs. Willis D. Bailey is hereby informed that her letter is received, but as she gave no Post Office, County or State, it is impossible to comply with her request, till she furnishes these requisites.

SALEM, ILL.—March 13, '76.—I went into winter quarters with 130 colonies, well supplied with honey. Have lost five from queenlessness, none by desease.

Bees very lively but have consumed a vast amount of honey, in consequence of the warm winter. Am feeding Rye meal which they "go for" lively. Have noticed them bringing in polen. An examination shows that they are making a fine start in breeding.

Of honey resources, we have in the spring, soft maple and elm, followed by fruit bloom, and hard maple, then white clover, which, though blooming abundantly, sometimes fails to afford honey. Also some black and yellow locust. Then fall flowers, smart weed, spanish needle and some buckwheat. L. MCCOLM.

Notes & Queries.

CONDUCTED BY CH. DADANT.

Which will be the most profitable way to use the comb foundation in my surplus honey frames? Should I fill the entire frames with foundation, or use them only in strips; and if in strips, how deep must these be, in order to induce the bees to begin to work readily and to build the combs straight within the frames? My frames are 5½ inches long, 4½ inches deep, and 1¾ inches wide, inside measure. My surplus honey is nearly all from white clover, which I put up in shape and manner probably unexcelled, and furnish it to home customers in desirable quantities, at 35 cents per pound, net, ready sale. The frames are returned to me when empty, and will last many years.

Stark Co., Ohio. HENRY CRIST.

ANSWER:—No doubt comb foundation will greatly help the bees, and secure straight combs. To incite bees to work readily in the surplus frames, fill the frames with foundation, or at least, have a part of the foundation descending as low as to touch the bottom bar of the frame, cutting the foundation diagonally.

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1. What honey-producing plant will supply that lack occurring about June 1? If we can find good forage *then*, we shall have as good a place for bees as any in the West.

2. What is your experience in raising Melilot clover? When does it blossom?

3. When does Alsike clover blossom?

4. When does Chinese mustard blossom?

5. Where can I purchase these seeds, and at what price? H. S. HEATH.

ANSWER:—1. White clover, alsike, melilot, catnip, all of the large tribe of mints, linden, sumac, anise, borage, red raspberry, cucumber, melon, sun-flower, etc.

2. Melilot is one of the best plants for bees, and blossoms from June till October. 3. In June.

4. See page 33 of our February number.

5. Consult our advertising pages.

Among honey-producing plants I have not seen any account of HEMP. I had a few stalks growing in my yard; as soon as it began to bloom, the bees were on it from light till dark. P. MCBRIDE.

Keokuk County, Iowa.

ANSWER:—Bees find pollen in large quantity on hemp, but, we think, no honey.

Wishing to Italianize my black and hybred bees, I would like to know the best method. Is it to buy a tested queen and raise others, or to get dollar queens in the spring and introduce into hives early? Will two out of three dollar queens be pure? H. HAINES.

ANSWER:—It would be well to buy dollar queens for all your hives if you could get these queens from a reliable bee-keeper, whose apiary is well stocked with pure bees, and surrounded with neighbors having pure Italian bees. No doubt honest bee-keepers are numerous, but the other conditions are rarely found, and to buy these dollar queens is something like gambling, yet they are very good to raise drones, at least.

On what terms are bees rented, when taken in the spring? STEPHEN W. HALL.

ANSWER:—We give one-fifth of the honey and one-half of the natural swarms to the owners of the farms where we put our bees, and attend to them ourselves. If the farmer could take care of them we would give him one-half of both increase and honey. S.

Will you please by the JOURNAL inform me how to make "bee-quilts," so frequently mentioned therein. Do they any more than cover the top of the frames, taking up only the place the honey board does in a Langstroth hive? How thick are they, and of what material should they be made? Are they used only as winter covering? Is it any advantage to give bees rye flour when there is a warm time for several days or a week at a time, when the bees are on their summer stands, and are out flying about? Can the extractor be used early in the summer? If so, in what should the extracted honey be kept, and at what temperature should it be kept? Will dampness affect it? Can the frames for surplus honey be one-half the length of those in the lower part of the hive?

A SUBSCRIBER.

ANSWER:—Bee-quilts are made of two pieces of cotton cloth as large as the top of any hive, with several thicknesses of cotton batting between them—some use more, some less. Some use them all the time,—winter, fall, and spring,—taking them off only in summer, when surplus boxes are put on. Give rye flour to the bees whenever they will take it. The extractor can be used in cold weather by keeping comb containing the honey to be extracted, in a warm room twenty-four hours. Dampness does not affect honey

kept in tight barrels, kegs, or cans. Wax all wooden vessels in which honey is to be kept. The frames for surplus honey are often made half the size and depth of those used in the lower part of the hive.

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1. In making artificial swarms, would it not be better to give the queenless part a queen, or a queen cell immediately, instead of waiting for them to rear one?

2. Would it not prevent after-swarming to destroy queen cells, begun before the division?

3. Will bees produce as much extra honey in an under-hive as they will in boxes on top. A. A. STETSON.

ANSWER:—1. Yes; if a queen cell, give it the next day.

2. Yes. 3. No.

I put my bees, 19 colonies, into winter quarters on Nov. 15, in a house built on purpose. Thermometer stands at 42 deg. never going below 40. I notice a constant humming in a number of hives, so that I fear there is something wrong. They are Thomas' Patent Hive. I made a frame to fit the top of the hive, with canvas on the bottom, and filled each frame one inch in depth with wheat bran.

Quebec. JOHN EDMOND,

ANSWER:—Probably the top of your hives are fitting too closely, and consequently the inside too warm; your cellar is at the suitable temperature.

By what process can I tell the age of a queen? I see it recommended to destroy queens three years old. What think you of it? JOHN W. BAYLOR.

ANSWER:—Generally, old queens can be detected by their appearance. Yet no one can tell exactly the age of a queen, without having kept a record of her birth. The piolificness of a good queen decreasing after her third year, it is a good practice to replace her after she attains that age.

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1. Should the inside of a movable comb hive be planed smooth?

2. What height and length should the entrance holes to hives be?

3. Which is best: top or side surplus boxes?

4. What depth of frame will give the most top box-honey, without regard to wintering?

5. Is the *lophanthus anisatus* a valuable honey producing plant?

Pettit, Ind. JOHN JONES.

ANSWER:—1. It is better to do so.

2. The whole length of front, but so constructed as to be made smaller at will.

3. Top boxes, with small frames at sides. 4. Eight inches. 5. In some localities.

I have a hive that has been queenless for two or three months. About ten days ago, eggs were deposited in a small piece of drone comb which the bees proceeded to nourish, and they are now sealed over, and I think will hatch all right. I examined on Feb. 21st. There are no other eggs in the hive. Query: Where did these eggs come from? If from a fertile worker, why not more eggs, and should they be from a fertile worker, could they be relied on for fertilizing queens, if I raise them now? J. M. W.

ANSWER:—No doubt these eggs were laid by a fertile worker. Never have we seen the eggs of fertile workers to be of account to raise drones, they are so few, yet we think their drones as good as any.

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1. If you were to use the Langstroth hive, and cultivate the common black bee only, and not use the extractor, would you use eight or ten frames—in the brood chamber?

2. How many colonies of bees can be kept in one place profitably, if the locality is a *fair* one for bees?

3. Why does the color of the Italian Bees effect their habits of industry, or why are the dark colored ones superior to the *high colored ones*? If dark colored ones are superior, why are not the black bees superior to either? D. W. F.

ANSWER:—1. Ten frames would be preferable; but one who keeps black bees only, and does not use the extractor, is wasting valuable time.

2. It would be difficult to overstock a good location. We could not venture to give the *exact* number, without knowing more about the location.

3. The *color* is not every thing about Italian bees. They are a different race from the blacks,—as much so as the Berkshire hog is different from the old style "prairie rooters." The Italians are a superior race.

Is there any chemical process for bleaching wax? If so, please give directions. E. D. CLARK.

ANSWER.—We do not know the most recent method of bleaching wax. A few years ago *the modus operandi* was to have the wax put in the shape of very thin sheets; to dip these in water containing muriatic acid, and to finish the bleaching by submitting the wax to the action of the dew for several days.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, MAY, 1876. No. 5.

Comb Foundation:

Take a piece of empty honey comb and cut off all the cells, until nothing is left but the division wall of wax between the two opposite sets of cells, and you have a comb foundation. The latest production, however, consists not merely of the dividing wall, but also a slight depth of the cell-walls themselves, on each side, and these cell-walls, although slight in depth, may be of such thickness as to contain enough wax, so that the bees may work out or prolong the cells to their full depth without any additional material.

These comb foundations are given to the bees in their brood chamber, enough being put in a frame to fill it, in whole or in part, perhaps only a narrow strip being used for the bees to start upon. They are also used for surplus honey, enough being given to fill the boxes, or merely enough to give the bees a start. The object is to save the time of the bees in secreting the wax, as also, the honey used in its production. Another object is to secure all straight, worker comb, and still another to hasten the commencement of work in boxes when the bees are loth to enter them.

Thus much by way of answer to those who are asking, "What is comb foundation and what is it for?"

Much interest attaches to this matter, and we invite the fullest information from all. If you know anything in favor of the use of artificial comb foundation, tell us all you know about it. If you know anything against it, tell it. If you don't know anything about it, but have some question to ask, ask it. There are a hundred questions of interest that will suggest themselves, and we hope those of our readers, who have had experience in the matter, will give us the full benefit of that experience.

The interesting article of Mr. Bingham in the present number, certainly does not speak very favorably of the use of comb foundation. Is his position correct? We wait for all the light we can get.

Mr. Perrine claims to have entire control of the manufacture, having bought the patent, and Mr. A. J. King announces that in spite of Mr. Perrine's claims, he will make and sell machines for the production of comb foundation, so that each one may make his own. The price at which these machines will be furnished is not given; and whether the right to manufacture the machines is open to the public, we cannot quite make out, but suppose not, as mention is made of having patented four years ago, "a *machine* (not the *product* of the machine) for making the base of the edges of worker combs."

To those who desire to increase the number of combs in the brood chamber, there can be no question but that comb foundations will be very advantageous, providing the cost is not too great. At what price it will be profitable to use them, depends somewhat upon circumstances. As factors in the problem, will come in the number of pounds of honey needed for the production of a pound of wax, the price that can be obtained for honey, and the value of the *time* of the bees needed to secrete and work the wax. The number of pounds of honey needed to make a pound of wax has been variously estimated at from 15 to 25. Whatever the number of pounds, the higher the price of honey, the more valuable will the wax be, and the higher the price that can be afforded for a pound of foundation. The value of the bees' time in secreting the wax will vary. If a great rush of honey takes place, as there sometimes happens in bass-wood harvest, when for a short time, there is more honey

than all the bees can secure, the cost of combs made by the bees will be much greater than if made during a moderate and long continued harvest, when three-fourths of the bees can secure all the honey that is yielded.

As to whether the foundations are valuable for surplus boxes, opinions differ widely. We shall be glad of information from any one who has tried it. Is there any difference in the *taste* of two pieces of comb-honey, made at the same time, from the same flowers, one stored in comb made entirely by the bees, and the other stored in comb, for which the artificial foundation was furnished? If not, then the foundations will be very desirable for surplus honey; if the taste is injured by the foundations, then they will not be received with favor for that purpose. We hope the present season may throw much light upon this topic.

MANUAL OF BEE-KEEPING.—Prof. A. J. Cook, of Lansing, Mich., is publishing a "MANUAL for Bee-keepers." It is fully illustrated and treats of everything relating to the apiary. It is the product of many years' experience, observation, research and experiment by the author, and will obtain a very rapid sale. We have long felt the need of such a work, brought down to the present time, embodying all the useful hints and directions which cost many a bee-keeper a hundred times the price of this manual to find out by experience. The name of the author is a sufficient guarantee of the intrinsic *worth* of this Manual. For sale at this office; price 30 cents, postpaid.

☞ Dealers in apiarian supplies are invited to send us their *new* price lists. We have devoted a place to them in this office where they can be consulted by our many visitors.

☞ As it is a very pleasant thing for "bee-men" to see how each other appears, we have arranged to put up on the wall of this office a large Photo holder. All are invited to send their "photos" (or tin types if they have no photographs) to be put into it. When you can, write your name and address at the bottom or on the back thereof.

☞ A "beginner" asks:

"Will an Italian queen fertilized by a Black drone produce Italian drones; so that an Italian queen fertilized by them will produce pure Italian workers?'

Although a very few may think that impure fertilization gives a slight taint of impure blood to the drone progeny, the great majority of bee-keepers subscribe to the doctrine of Dzierzon, that the drone progeny of an Italian queen will be pure Italian, no matter how the queen was fertilized; and a black queen fertilized by an Italian drone will produce pure black drones. In other words the drones will always be of the same blood as the mother and not at all affected by her fertilization.

☞ Mr. N. Perkins, of Minn., says: "In the January, 1872, issue of the Bee-Keepers' *Magazine*, in an article on honey plants, on pages 2 and 3, the statement is made that *Lophanthus anisatus* flowers incessantly from May until frost, and that one acre would be ample pasturage for 100 swarms of bees! Can you tell me anything about it?"

Some that have tried this plant claim that it is a *fraud!* Let us hear from all who have tried it, so that bee-keepers may know the truth about the matter.

☞ The value of a paper devoted to the interests of a class, is derived from the fact that it is the medium for the interchange of views and experiences affecting that specialty. The AMERICAN BEE JOURNAL is that medium for bee-keepers and it invites correspondence, items of experiments and experiences from all parts of the world. We, therefore, say to all—write to us, giving any item of interest coming within your observation, and write *often*.

☞ In last month's JOURNAL we made a short criticism on Mr. Binghams' statement that "honey-comb is one thing, and beeswax another and very different thing." In this issue Mr. B. has an article starting out with something like a rejoinder, but in the course of the article he admits that "*chemically*, honey comb is the same as beeswax." This is all we claim, and take *no exception* to Mr. Bingham's views of "those features which give comb-honey its *peculiar* virtue."

Death of Adam Grimm.

He died at his home, Jefferson, Wisconsin, on the 10th inst., of congestion of the brain. His age was 52 years and 16 days. He leaves a wife, four daughters, and son.

Mr. Grimm was one of the trio of extensive and successful bee-keepers of this country, viz.: Capt. Hetherington, of New York; J. S. Harbison, of California, and Adam Grimm, of Wisconsin. He was also one of our pioneers in bee-culture, and rendered very effecient service to the pursuit by giving the result of his experiments and experiences in THE AMERICAN BEE JOURNAL, to which he has been a regular contributor many years, until his failing health compelled him to desist.

Adam Grimm was born in Germany. When a boy, attending school, he spent his leisure hours with his bees, watching their instincts and habits. He came to this country in 1849, and then devoted his time to bee-keeping, engaging in it extensively, and energetically pursued it as a business till his death. For the past year, he has been engaged in the Banking business, and was, at the time of his demise, cashier of the bank at Jefferson.

He was confined to his bed but five days. On account of failing health during the past year, he concluded to sell a part of his bees. He wintered 1,400 colonies in his cellar, with very small loss—all being now in good condition.

Gone! With all his faults and virtues —with all his hopes and fears, to the land which, figuratively speaking, is "flowing with milk and honey"—that "land of promise" beyond the river, where, "in the sweet by and by," we hope all our readers will meet him, with the good, the pure and the true, of all ages and climes!

J. S. COE, with his House Apiary, is on the Centennial grounds. The house contains 32 hives—all the places being filled. Of course, all the apiarists visiting the exhibition will give him a call. We expect to do so about the time of the National meeting, which it is now arranged to have convene on October 25th, as we are informed by President G. W. Zimmerman.

PROF. TICE, of the U. S. Weather Bureau, predicts cold and wet weather for May.

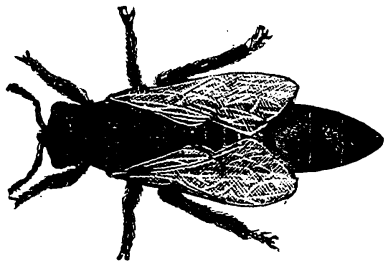
IN our last issue, while commenting upon the *general* remark of a correspondent, that the bee journals called for no report last fall, and in order to specifically *locate* the CENSURE, we said: "there is but *one* BEE JOURNAL on this continent, and that the AMERICAN." *Moon's Bee World* says it wants its share of the censure; to this we cannot object, as the *World* comes in as a bee-paper or journal, under the general expression,—as do the *Bee-keepers' Magazine*, and *Gleanings in Bee Culture*—though none of them claim BEE JOURNAL as a name! All are magazines, and all are gleanings in bee culture, but these names are each appropriate, as such, only to *one*. It was *not* a conceited mis-statement, Bro. Moon, as you suggest—only your misconception of our meaning.

THE Washington (Iowa) *Press*, of March 30th, says: "That talk about Mrs. Tupper's insanity is generally held to be too thin. Some time ago she sold her Brighton farm, of about 135 acres, to Rev. H. H. Kellogg, of Guthrie county, for $8.000, a whale of a price. There had been two mortgages on it, one for $1,000 and one for $1,100. The former had been released, and on the 13 instant she was sane enough to write to parties here, and released the $1,100 encumbrance. She seems to have *pecunia*."

Mr. ELLSWORTH, of Illinois, states "the unfortunate lady, whose mental and moral machinery has no balance wheel," has fleeced him to the tune of $80.

☞ Our readers will remember D. H. OGDEN, of Worcester, Mass., whose items have often appeared in this JOURNAL. We learn with regret that he has a severe attack of the rheumatism, a disease that has followed him relentlessly ever since he was eight years of age, stiffening his joints and making him helpless. His bees are not cared for, as he has not the wherewith to hire any one to attend to them. He expected to have made something from them this season to support himself, but this fresh attack has not only cut off that hope, but permits *want* to stare in his face. The charitable among us may *here* find a chance to "lay up treasures in heaven," by helping a brother in distress.

NEW CUTS.—The Chromo-Lithographic plates, advertised in the November number are excellent. We have just had a new Italian Queen cut, engraved from them, which is correct in every particular. Here it is:



We shall also engrave others from these plates, for THE AMERICAN BEE JOURNAL.

Advertisers who may wish to illustrate their advertisements with them, can do so *free of charge*, except for the space they occupy.

To those wishing them to illustrate catalogues, price lists, or stationery, we will send an electrotype of the queen cut, postpaid, for $1.00. Or we will print such for them, illustrated with any cuts we have, at rates as low as any others will print them *without* the cuts.

Comb Foundation.

On another page a request is made for the particulars of the "Claim" for Comb Foundation. Mr. Perrine has furnished us the following:

The patent is No. 32,258, and was issued to Samuel Wagner, of York, Pa., and dated May 7th, 1861. It runs for 17 years, and cannot be renewed, as the law now stands. The patent runs out on May 7th, 1878—2 years hence. Its title is "Improved Artificial Honey Comb," and it is described as follows: "The substitute is designed be be artificially and suitably formed upon both sides or faces; any suitable material which is susceptible of receiving the desired and necessary configuration." The *claim* reads thus: "As a new article of manufacture, an artificial substitute for the central division of comb built by bees, which presents to them, on both sides thereof, guides for the construction or continuation for the sides of the comb cells, whether the same is constructed with or without the whole, or any portion of the sides of the cells."

I want to be fully understood in the matter of prices. I have put them where I thought I could make a profit. I may put them lower or higher. I have yet to know of any one making a profit at any price. John Long (*alias* Hoge) put the price of yellow and white at $1.00 per lb. White beeswax is worth 55c. to 60c. per lb., and he paid Mr. Weiss, 35c. per lb. for running it, (and he, the inventor, with his rollers, only made 40 to 50 lbs. per week, working 16 to 18 hours per day) which gave Hoge a profit, if he used beeswax, of 5 to 10 cents per lb. for packing box and labor of putting it up, etc., etc. But he made a profit by keeping the money sent to him, and not filling the orders. A number have complained to me of this. One man sent $100, and received only 28 lbs., and can get no answer to his letters to Hoge. So far as Mr. A. I. Root is concerned, he has always been too generous for his own interest, as his friends all know. When he had his machine completed, he announced that he would furnish the Foundation at 75 cents per lb. He has always tried to *give* something for nothing, instead of to *get* something for nothing, as Hoge did. Mr. Root must certainly have seen, before he sent me the machine, that he could not make a profit on yellow wax at 75 cents per lb. He stated to me that he had made only about 30 lbs. in the whole month he had the machine, and I have had the machine nearly that length of time, and up to the present writing, have not made *one pound* as I wanted to have it, but have melted up all attempts so far. I did not buy the patent, nor machine, to make money selling Foundation. I have use for it in my business; but if any one wants it, at a price for which I can afford to make it, all right; I will do the best I can for them, and will advise them when I make prices lower or higher. I had use for the patent on the Comb Foundation, and the machine for making it, and paid for them instead of pirating them; and if any one wants a part of it now, he must not pirate it, but do as I did.

C. O. PERRINE.

Voices from Among the Hives.

CRAWFORD CO., MO., April 15, 1876—"Bees have wintered well here, and are nearly ready for dividing. We have none but the native stock. Money is too hard to get to Italianize now."

J. HARMAN, Sen.

DELHI, MICH., April 7, 1876.—"My 50 stands of bees have wintered in fine condition. I purposely wintered one without a queen; all right so far. I have made a hive which I call the Centennial. Bees winter in it better than any other I have. Fed once in every five days during the winter."

JOHN L. DAVIS.

PLUMAS CO., CAL., April 13, 1876.—"I commenced bee-keeping two years ago with two hives. Am wintering twenty, and could have had twice that number if I had taken proper care of them. Bees do well here; no trouble in wintering, and we are free from moths. Some of my hives yielded 150 lbs. comb honey to the hive last season. I intend to make bee-keeping a business, as soon as I can get properly fixed for it, and of course, shall need the assistance of your valuable JOURNAL.

E. CULVER.

ROCHESTER, ILL., April 1.—"April No, AMERICAN BEE JOURNAL, is at hand with a cheery face, and much improved in appearance. Flooded cellar compelled removal of bees to "*stands*" much earlier than I intended. In good condition. Had consumed a very small amount of stores. Have 12 colonies in two story hives, (the upper portable;) size of brood chamber 19½x18; frame 18x7¼. I am but a beginner in apiculture, and had it not been that I had counsel from experience, I should most likely have thrown up the sponge in confusion and dismay ere this, as many apiarists rush into print to gratify their selfishness and malice, instead of on business."

W. W. CURNUTT.

SHARPSBURG, TEXAS.—April 7, 1876.—"BEE JOURNAL comes regularly. I have never lost a number. Bees doing well. Though everybody was not made for a bee-keeper, any more than for other occupations, it is a business in which "pluck" will tell." I see that some of your correspondents are trying to learn the bees to stay out all the time, *i. e.*, winter out. How can this be done, when the bees of one winter, never see another. I have never been able to learn bees anything, nor learn myself, the half they know about themselves. JOHN W. BAYLOR.

CALDWELL Co., Ky.—April 9, 1876.—"My husband has 46 colonies, all in Langstroth hives, and working finely at present. We take great interest and pleasure in bees, and hope for a successful and prosperous year for bees, honey, and the 'old reliable AMERICAN BEE JOURNAL.'" MRS. V. M. LARKINS.

PUTNAM Co., Ill.—"I started in the spring of 1874 with 170 stands—mostly hybrids—in good working order. In the following fall I had 285 stands and sold $500 worth of honey. The winter of 1874 and 1875 proved to be the hardest ever known in this section on bees. In the spring of 1875 I had but eighty stands left, and they in an enfeebled condition. The season of 1875 was a very short one for making honey, and I did not sell but $100 worth of honey, but I came out in the fall with 176 stands in good order, having lost none the past winter, and they are now in splendid condition, full of life and activity." OTTO HALBLEIB.

ASPINWALL, NEB.—April 8, 1876.—'I have an excellent bee range here. I wintered my bees in an open shed, low and tight on north and west, open on south-east, and all have come through safe and in good condition. I have ready sale for all the honey I have or can get, in nice, clean, smoothly finished honey-boxes weighing at from four to six lb, at prices so far above extracted honey that I don't want extractors." J. S. MINICK.

DODGE Co. WIS.—April 17, 1876.—"I have two queens fertilized this spring, March 4th and 22d. My stocks have consumed thrice as much as last winter and on an average are weaker than they were then. I have lost one out of 24 by starvation—our cave was not warm enough toward spring." JOHN H. GUENTHER.

NATCHEZ, MISS., April 3, 1876.—"Our winter has been a very open and mild one. Many fruit trees blossomed several weeks earlier than usual, and many trees have been killed by late cold weather, so that the prospect is a poor one for a good honey season. My bees have wintered well, which in fact they have never yet failed to do, and are preparing for swarming, which begins here about the 10th of April every year." JNO. R. BLEDSOE.

CUYAHOGA Co., O., April 14, 1876.—"I have kept bees forty-seven years, and taking all things into consideration, have been moderately successful. I have one hive in which the bees or comb have not been changed for thirty-seven years, and they are now as good as any I have. I have not been very successful with the Italians as yet, but shall try them a while longer. They don't seem to be very long-lived, and will not stand the cold equal to the blacks." C. L. YOUNG.

ST. GEORGE, KANSAS, March 6, 1876—"We have had a warm winter. I put 48 colonies in the cellar in January. Took them out a few days since in good condition with the exception of two queenless colonies. I lost several late queens last fall, and think some are now queenless. I hope for a good season this year to make up for my losses during the past two years. Our honey plants are: willow, small sorrel, wild grapes, fruit bloom, sumac, linn, Indian currant, several varieties of golden rod, and buckwheat." JACOB EMMONS.

BREAKABEEN, N. Y., March 10, 1876.—"Last spring I lost 7 out of the 29 stocks I put in my cellar. It was damp. I got 700 lbs. honey and 17 swarms last season. I intend to have 70 colonies next season, but shall not put them in the cellar again, as I can winter them better out doors, or in my new apiary house, which I built last fall. It is 12x14 feet." WM. B. BURGET.

BOSCOBEL, WIS., April 10, 1876.—"Last November I put 53 stocks into my apiary house; 49 were Italians, and 4 hybrids. I now have 48 in good condition. The winter here was rather warm for wintering inside. March was a severe month, the thermometer marking once, 9 degrees below zero. April commenced quite cold but on the 7th the weather moderated so suddenly that I ventured to set my bees on their summer stands. They have been working on rye meal splendidly, and to-day they gathered pollen from the bluff flowers, which make their appearance exceedingly early. One year ago I had 27 stocks. I obtained 2,939 lbs. of honey, mostly extracted from them; I sold nearly all of it in our home market. I think there is no locality in the State that will surpass the Wisconsin valley for early and late forage. Plum and wild crab blossoms are abundant. White clover was quite plenty last year. Bass-wood is very plenty and lasts two weeks. Buckwheat is raised in considerable quantities. The sand prairie bordering the river is covered with wild balm, and produces better honey than buckwheat, and lasts till the third or fourth frost comes. I am not a professor or an expert, but intend to give the business my whole attention, as I am quite sure there is a little money that will 'pan out.'" EDWIN PIKE.

FULTON, ILLS., April 17, 1876.—"Bees have wintered well in this section, so far as I have heard. Some of mine have double the number of bees they had when I put them into winter quarters."

R. R. MURPHY.

EDGEFIELD JUNCTION, TENN.—April 6, 1876.—"The winter has been disastrous to all the early blooming trees and shrubs. Fruit, except apples, is all killed. Strawberries and blackberries may produce a crop. Bees are, of course, badly affected by the loss of all the early bloom. No honey has been gathered, nor is likely to be till clover, except what may come from the apple bloom and poplar."

T. F. BINGHAM.

CLAY CO., IOWA.—April 14, 1876.—"This morning find the ground is covered with a six inch snow. I dread the loss of bees that will be occasioned by their alighting on the snow. I have 22 stands; kept them in cellar; lost four by being queenless when I put them away. I am completely isolated in the business,—no bees in the county but mine."

W. W. MOORE.

SARATOGA SPRINGS, N. Y.—April 16, 1876.—"About the 1st of last March I sent $1.50 to John Long, of New York, for one pound of bleached, or unbleached wax comb foundation, to be sent immediately. Mr. Long received my money order, but never sent any combs. According to the price of comb foundation now, my bees can make comb cheaper than I can buy it." S. RUGGLES.

CUMBERLAND CO., MAINE, Feb. 4, 1876—"I took 380 lbs. of surplus from one hive last season, all in glass boxes, which I sold at 33 cents per lb. I fed the stock early in spring to encourage early breeding, and kept it strong all through the season." MRS. L. E. COTTON.

LEAMAN PLACE, PA., April 18, 1876.—"I wintered 32 colonies on their summer stands, and now they are all good and strong. The only protection I gave them was quilts on the top of frames and cap over the hives. The prospects are excellent for a good honey season."

ELIAS HERSHEY.

PALO ALTO CO., IOWA, April 18, 1876.—"In this new county, bees have to depend almost entirely upon wild flowers. There is no clover here, but we have some basswood and a great profusion of wild prairie flowers. I put five swarms of Italians in my cellar about the middle of last November, and never disturbed them until about the first of April. They came out in fine condition, well stocked with bees and honey. I intend to increase them to about fifteen swarms this summer, and get a good supply of honey besides." T. W. HARRISON.

HAMILTON, ONT., April 20, 1876.—"I had my bees all out of the cellar for a fly last week. I have them in a large, dry place, full size of my show-room. I never saw bees in such fine order as they are. Have increased almost double in number since I put them in last fall. I returned them same night, to remain until about 5th of May, when I intend to take them out of their long-resting temperature of just 40 degrees, from which I never found it to vary a single degree for almost six months. They seem to sleep all the time, and have been so quiet, that when I had men of forty years' experience look at them, some pronounced them all dead. A month ago, and in February, I thought so myself, as thumping on the hive would not disturb them in the least, but to our surprise, they just boiled over with bees when I removed the blanket. The queens are all laying and plenty of brood. This is my experience on 40 degrees of temperature, and I hope others, who can do as I have done, will try this. Of course I admit I have an excellent place for my *dear pets*. As I love them so much, I would share my drawing room with them, did I think it better than where they spent the last six months."

W. G. WALTON.

MARSHALL CO., TENN., March 20, 1876.—"DEAR SIR: We are delighted with the JOURNAL; indeed regard it as indispensible to the success of all apiarists. I and my eldest daughter are partners in this most delightful business. We had last spring, forty-four colonies. We extracted two thousand pounds, mostly linn honey of a superior quality, which netted ten cents per pound, and increased to sixty-five colonies. The fruit and poplar blooms were all destroyed last spring by the late frosts, and our bees barely made a support till the linden came in, which was unusually rich and abundant. We use the Langstroth hive. We are very anxious to try comb-honey this year. Our bees have wintered very well on their summer stands; have lost but two. The winter has, until the past few days, been remarkably mild; have had some flowers almost all winter and most of the fruit is in bloom. Only a *few days* since, it seemed as if spring had come in good earnest, and farmers were preparing to plant; but alas, how vain are the hopes of man! Yesterday all was cheering and beautiful; flowers were blossoming, birds were warbling, and *bees* were humming, as if welcoming the lovely spring weather; to-day how changed. Instead of the cheering sunshine, flowers and bird-song, we behold mother earth shrouded in her winter robes, and we hear the howling of a *cold* north-west wind, speaking in language too plain: 'No honey now for the bees; winter has came at last.'"

W. J. HAYES.

Correspondence.

For The American Bee Journal

Artificial Swarms.

BY A. G. HILL, OF KENDALLVILLE, IND., THE INVENTOR OF THE GAS-PIPE HONEY EXTRACTOR AND THE WINTER BEE-HIVE.

If we have only a few stocks of bees and wish to increase them as much as possible, it is very discouraging to wait for natural swarms, as bees will some seasons cluster out most of the time and not cast out a single swarm. Again, they will often swarm and leave you even after you have hived them once; besides, you waste a great deal of valuable time in watching them. From several year's experience in dividing, I find that artificial swarms work just as well as natural ones, if they are properly made, and it requires no more time to make such than it does to hive a natural one after it has clustered. I have known bees frequently to increase from one to seven good stocks in a season by natural swarming, and cannot see any reason why we cannot increase as much, or even more, artificially, with the aid of the movable frame and the extractor.

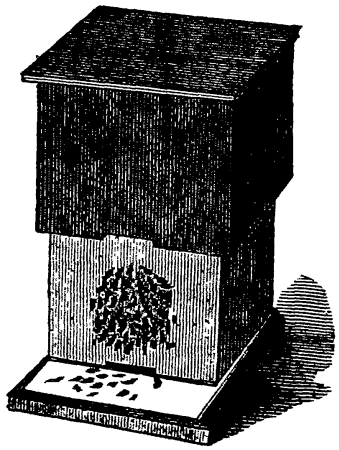
WHEN TO TAKE FIRST SWARM.

When bees swarm naturally, the hive must be crowded with bees, the combs must contain a numerous brood advancing from the egg to maturity, the bees must be obtaining honey either from flowers or artificial sources, and the weather warm and pleasant. The bee-keeper should always know that such is the case before he attempts the operation. Nothing is gained by dividing bees too early, or before they are ready, for we have frequently divided in the first days of July, and had them do better than those we divided in May and June, yet it is a great waste to let a stock stand a few days after it is in the proper condition. No definite rule can be given, hence every bee-keeper should study his own bee-pasturage and learn from experience, and use his own judgment.

HOW TO TAKE THE FIRST SWARM.

No. 1 represents a stock of bees ready to divide. Now, if it should swarm, the old queen would leave, and most of the bees—cluster on a tree and be hived in the new hive, leaving the old stock with only bees enough to feed the brood and to keep it from chilling. By this arrangement, we have all the working bees in the new hive with the old queen, where they have plenty of room to build comb, and the queen is ready to deposit an egg in each cell as fast as completed, while the old hive is full of brood with bees enough to take care of it and rear the young queens, and by the time this brood hatches out and becomes old enough to work, the young queens are ready to lay. So if we wish to reap the best results, we

OLD STOCK NO. 1.



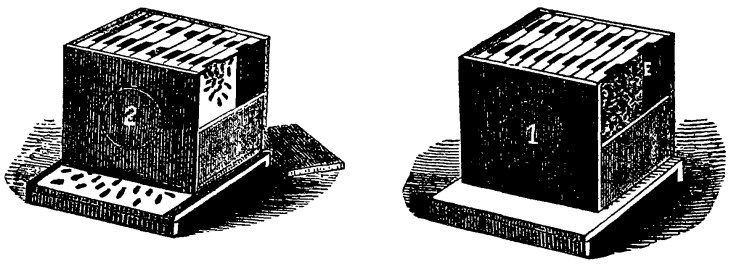
O

must divide No. 1 as near natural swarming as possible.

HOW TO FIND THE QUEEN.

This is the most difficult part of the work for a beginner, yet a little practice makes it very easy. We often wonder after we have found five or six black queens (in one hour) and introduced as many Italians, how we could look three or four hours for the first queen we ever saw without finding her. Use a veil, and do not smoke the bees unless they are very cross. Open the hive without the least jar—take out the first comb, look it over quickly, and set it in an empty hive close by—proceed in this manner until you find the queen or have removed all the combs—then look the bees over carefully that are left on the inside of the hive, keeping them running from one side to the other by stirring them with a quill or breathing on them. A queen will often sit still right before your eyes without your seeing her, but will be seen as soon as she moves. So you should always keep the bees moving that you are looking at, by breathing upon them. Proceed to look the combs over the second time—you need not hurry, as the bees will hang on the combs in clusters or bunches, and the queen will be hid among them. The object of hurrying the first time through was to see the queen before she could hide. Hold the combs perpendicularly before your face, breathe on the bees and make them run around on the opposite side—then turn the combs and drive them again. Set the combs, as fast as you are through with them, in the old hive just as they were, and if you have not found the queen yet, close up the hive and wait an hour, and try again. Do not think you will injure the bees by handling them so much, for the practice will be of more value to you than the injury to the bees, as they will work just as well half an hour afterwards.

FIRST SWARM. OLD STOCK.



A. O. B. C.

Remove No. 1 three or four feet from *O.* to *B.*, and place No. 2 on the old stand at *O.*

After you have found the queen place the comb that she is on, if it is a straight one, in the centre of the new hive, No. 2 at *d*, and fill up on each side of this comb with empty frames—close up the hive and raise up the front side by placing a couple of blocks under the corners; then take three or four combs from No. 1 (one at a time) and shake or brush the bees in front of No. 2, and make them go in—return the combs to No. 1, putting in an empty frame bar at *E* to supply the place of the comb left in No. 2—which was left there contrary to the natural laws of swarming—to prevent the new swarm from going off.

HOW TO PLACE THE STANDS.

Place No. 2 on the old stand at *O*, where No. 1 set before the division, and place No. 1 three or four feet from *O* at *B*, so that most of the working bees will enter No. 2. You have them now the same as natural swarming. No. 1 is weak in bees, but has most of the brood. No. 2 is an empty hive containing the old queen and a strong swarm of working bees. No. 2 should have two-thirds of the bees, or more, and if it does not become strong enough in an hour after you have divided them, No. 1 should be moved farther away from *O* to *C*, and if No. 1 should then become so weak that there would be danger of the brood chilling or the young larvæ starving for the want of bees to feed them, it should be moved back to *B*, and No. 2 should be moved to *A*, but you should never change the hives, setting the weak in the place of the strong, as it will be of no benefit. If your stocks are close together, the entrance of the bees may be regulated by setting short boards up in front of the strong one, instead of moving it.

WHEN TO TAKE A SECOND SWARM.

A stock will generally rear from five to twenty queens, and in about ten days the queens in No. 1 will commence hatching. This is the time, should nature take its course, that we should expect our second and third swarms. But we find from experience that, should No. 1 swarm so often there would be so few bees left to protect the eight combs that the moths would be very apt to destroy them, while the swarms would be so small in such large hives that they would build combs very slowly and be very apt to make them crooked. We may obviate these difficulties by dividing the bees and combs equally, and if we contract the size of the hive according to the strength of the bees, they will keep out the moths as well as strong stocks will in large hives.

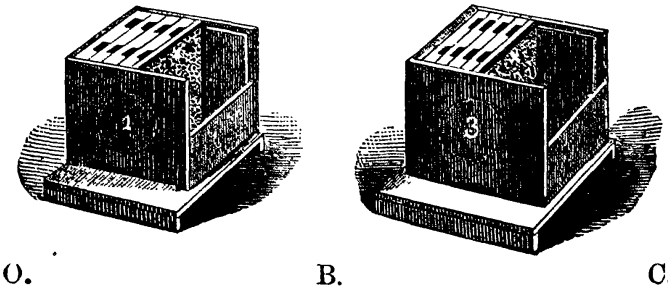
HOW TO TAKE THE SECOND SWARM.

On the ninth day take four combs with the bees on them, from No. 1, and place them in an empty hive, No. 3, (being careful to put combs in each hive that have queen cells on them)—make a couple of strips $\frac{3}{8}$x$\frac{3}{8}$, and as long as the top bars of the frames—tack on these strips one or two thicknesses of cloth cut just the size of the inside of your hive—hang this curtain *X* against the combs. You will find this much more convenient than a division board, as it holds the heat better—the bees do not fasten it, and when not in use it can be rolled up on the strap and laid away.

HOW TO PLACE THE STANDS.

Since *B* is the stand formerly occupied by No. 1, and we wish to divide the bees, we must place No. 1 between *O* and *B*,

OLD STOCK. SECOND SWARM.



A O. B. C.

and No. 3 between *B* and *C*, both equally distant from *B*, and after you have watched them a few minutes—if the bees enter No. 1 more than No. 3 you should move No. 1 a little towards *O* and No. 3 towards *B*, and continue moving them according to this principle until the bees enter each hive equally.

HOW TO TAKE THIRD AND FOURTH SWARMS.

No. 1 and No. 3 may be divided again on the next day, making third and fourth swarms. The operation is the same as taking a second swarm, except we put only two combs in each hive.

When bees are divided thus small, they must have constant care, to insure success. As soon as the young queens commence laying, these two combs (allowing one-third for stores) will yield a brood of ten thousand bees every twenty-one days. But these small colonies were formed ten or twelve days before the young queens are ready to lay. During this time the brood all hatches out, leaving the combs empty, and if honey is plenty, the bees are very apt to fill the two combs with honey, leaving no place for the queen to deposit her eggs. If left in this condition a short time, your swarms would be failures. Whenever the combs are in this condition, the honey should be extracted from them, and you should continue to do so every two or three days, if the bees fill them. Again, if the weather should be cold and rainy, the bees will not breed, for want of proper food. In this case, they should be stimulated to breed by feeding, every evening, a little sugar syrup. As soon as the brood begins to hatch in these stocks, they increase very fast. We now slip an empty frame down between the two combs, so that the bees can retain the heat better and build comb faster, than they could on the outside. Sometimes these weak stocks will fill a frame in three days; then again, it will require a week. They should be watched very closely at this time, and as fast as a frame is filled, an empty one should be given them, and continue this (giving one frame at a time) until the hive is filled. If any of these stocks should lose its queen while she was out to meet the drone, which is often the case, you should know it at once, and unite it with one more fortunate, and not let it stand until the moths destroy the combs.

HOW TO TAKE THE FIFTH SWARM.

When first swarms come early, and the weather is good, they will often fill the hive in a week or two, and swarm. If our bees come through the winter strong, so that we can divide them early, we may also divide the first swarm if it fills the hive, before it becomes too late in the season; and since No. 2, the first swarm, is now in the same condition that No. 1 was when the first swarm was taken—full of comb, brood, bees, and has the old queen—the operation for taking the fifth swarm will be the same as for the first, and need not be repeated here. If, however, the first swarm does not fill its hive soon enough to be divided, you may take four combs from it (No. 2), leaving five, and give one of them to each of the stocks, Nos. 1, 3, 4, and 5. (These numbers indicate the hives and not the swarms, as No. 5 contains the fourth swarm.) This will enable them to rear a brood of fifteen thousand bees, instead of ten thousand, every twenty-one days.

We do not generally get any surplus honey after dividing the bees so often. But if the season is good for breeding, so that we can make all of our weak stocks strong and we have a good yield of honey in the fall, we may get more surplus than if we had not divided but once—because we have six stocks to work in the boxes instead of two. This has frequently been the case during the past season. I increased one stock to five and they made 111 lbs surplus—another to four and they yielded 160 lbs—another to seven, they gave 120 lbs surplus. A gentleman, after letting his first swarm go off and had hived the second—sent for me to come and see to his bees. I found the old stock still contained a number of queen cells ready to hatch. I divided it into three stocks, giving each three combs. The four filled their hives and three of them swarmed in September and one of these filled a hive containing nine frames, twelve inches square, in seven days with comb brood and honey. I would say, for the benefit of the beginners in bee-keeping, that we can tell no more what a stock of bees will do in the coming season than how many bushels of oats we can raise on an acre. The former, depends on the bee-pasturage, culture and weather, the latter, on the soil, culture and weather. The weather is something we can not control, and is just as liable to make our bees a failure as it is our oats.

A CHIP FROM SWEET HOME.—In THE AMERCAN BEE JOURNAL, Vol. 12, pages 15 and 80, I described the sectional frame for surplus box-honey; how to fit the glass in nicely, troubled me. I now use glass 5x6, nail on each *end of box* two pieces, one on top and one on the bottom, which have just the length the section is wide, ¼ inch thick and 1¼ wide, these are rabbeted by a circular saw so as to let the glass slide in from one side—the ½ inch thin strip projects enough so that the glass cannot slide.

D. D. PALMER.

Eliza, Mercer Co., Ill.

☞ Any numbers that fail to reach subscribers by fault of the mail, we are always glad to send again, on application.

For the American Bee Journal.

Wintering Bees.

I read with much interest the report of the Michigan Bee-keepers' Association. That noble band of brothers is still ahead of all other associations in the country. But as usual, their great burden is the wintering. I have always wintered my bees with entire success, in all sorts of winters, both cold and mild. The present winter has to this date been one of the mildest I ever saw. My bees are all right to-day—had a fine fly and cleansing out. Whether I could winter my bees with success in Michigan, I will not pretend to say; though I see from back numbers of the JOURNAL that a few have wintered their bees on their summer stands, in that State, with entire success. I believe in very little upward ventilation. The best plan I have ever found yet, is to remove the honey board and spread warm quilts over, after laying a few splints across the frames. If I were to winter say 20 stands in Michigan, I would do it on summer stands, as follows: 1st, I would by means of buildings or board fences, etc., break the force of the fierce winds on three sides east, north and west; 2d, I would in October overhaul them all, cut winter passages, and if over 30 lbs of honey, in a hive not less than 2,000 or over 2,500 cubic inches, I would remove one frame and place the others at equal distance in the hive and see that there is plenty empty cells about the brood nest. But should there be only about 25 lbs, I would leave all the frames in; 3d, I would lay three or four half inch splits across the frames, then spread a piece of blanket or woolen cloth over, large enough for the ends to project about an inch, so as to be held firmly down by the cover or cap, then stuff the cap with soft hay or straw and put it on. This makes a splendid absorbent of moisture, without a draught of air; 4th, I would have the bottom of the hive at least eight inches from the ground, and if the hive stood on legs, would place straw under it. The rear end of the hive should be raised about three inches higher than the front, so as to enable the bees to clear out dead bees on all warm days, and to carry off water. The hives should be well sheltered and kept perfectly dry, and if convenient, facing the south. The entrance should be regulated with the changes of the weather. I would not only regulate it to half an inch in the coldest spells, but would put a loose piece of wool in so as to prevent the cold draught. The bees would get plenty of fresh air through the loose wool.

If bees cannot be wintered safely on the above plan in the cold North, would it not pay to bring them South? I am glad to see by the same report that friend T. F. Bingham is now in the South with his bees, making the experiment. He will give us a good report in time. I would here make one suggestion to him: Had he not better keep them here until the white clover season is over, extract all the honey, put up for shipment as he extracts, and take them North in time for the linden bloom?

I have thought of going North with a car load of bees about the 15th of June, when the honey season here begins to fail, and return with them in October. I could start just after the last extracting with empty combs that would ship safe. But I would have to return with the hives full of winter stores, or feed on sugar syrup for winter. I do not know how this plan would work. I would risk it anyhow, were it not for the discouraging price of honey, especially extracted, by the barrel. I am not inclined to run for honey at that low price. If it is asked why move my bees so far, I answer there is no such linden and poplar wood here in Kentucky that can be reached by a railroad yet. Nothing but awfully bad mountain roads. The reckless Kentucky farmers have felled nearly all the linden and poplar in the blue grass regions, as if their life depended upon it.

I will close by asking the Northern beemen's opinion of the plan I have in view, of moving bees by rail, so far as Michigan, twice in a season. R. M. ARGO.

Lowell, Ky., Jan. 18, 1876.

For the American Bee Journal.

Bee-Keeping, No. 1.

MR. EDITOR:—Having been a constant reader of your valuable JOURNAL, almost from from its beginning, without having contributed anything to its columns, I will endeavor, in the future, to contribute a few items, from time to time, upon bee-keeping. I am not doing it for notoriety, but merely to exchange notes and observations with my bee-keeping brethren. I am not one of the old ones: I belong to that class called "small fishes," in bee-keeping. For comparison,—a tadpole among whales. Nevertheless, perhaps a few suggestions from the small-fry will greatly assist the older heads in remedying some of the present difficulties attending successful bee-keeping or management. The greatest difficulty at present is, in wintering. I shall state nothing but what I believe to be facts,—which have come under my own personal observation.

I read, in your last issue, the discussions at the recent Michigan Bee-keepers' Association, upon the subject of wintering, and as they are so very similar to those preceding, and contain so very little good, practical information, I think it would be just as well for my bee-keeping

friends to dispense with the subject entirely, at their meetings in the future, and publish the same from year to year, devoting their whole time to something else. No disrespect, gentlemen.

Ventilation in winter. It is difficult, sometmes, to determine, what the author means by ventilation,—whether of the hives, or of the repository in which the bees are wintered. Every hive containing bees, placed in a winter repository, should have more or less upward ventilation, in order to help preserve the combs from mould, and keep the stock in a dry and healthy condition. If it has not, the combs are apt to become so mouldy, and the bees so demoralized and disgusted with it, that they are almost sure to desert it the first warm day that comes, after being set out. The amount consumed should not be taken into consideration for a moment, because you have got to give them enough to eat, whether they have dysentery or constipation. In fact, I find that a stock badly diseased will sustain themselves much longer, if they can have access to some clean, pure comb-honey, uncandied. And I will add here, that in whatever part of the hive the cluster may be, the first of January, it should be the effort of the bee-keeper to keep them there until spring, without compelling them to shift to get at their stores, as this shifting is more or less the cause of disease. This can be done by placing pure comb-honey above them, where they can get it. I am speaking, of course, of a broad, shallow hive, as I suppose every bee-keeper knows, who knows anything, that that is about the only form of hive that can be depended upon for surplus. Although I believe that there are a few of the old veterans who still advocate dog-kennel hives, or side-surplus receptacles. So much for ventilation of hives.

VENTILATION OF WINTER REPOSITORIES.

Upon this depends the degree of success in wintering. A half-dozen stocks, placed in a winter repository, would probably go through all right without any ventilation, where one hundred would become foul and diseased. It makes but very little difference how it is ventilated, provided it is arranged so you can give enough, and exclude the light when desirable.

I have had the best success in wintering in the cellar, under the dwelling. It would require too much space to give explicit rules enough to enable every one to govern ventilation. I will endeavor to renew this subject at some other time. I will merely add, don't try to keep them too quiet, or dormant; and don't let the mercury go below freezing. The less ventilation you give, the more quiet they keep. Every stock in a natural condition contains, at this date, Jan. 10, 1876, more or less brood, in every stage of development, and the more air you can give them, and keep the mercury at 35 or 40 degrees, the more brood they will develop; and upon the result of that breeding depends the strength of your stocks in April and May. As the season advances, it will be necessary to shut off nearly all ventilation, at times, to keep them from coming out and getting down. If the mercury goes below 32 degrees, shut off all ventilation. This ventilation business requires more experience and closer observation than anything pertaining to the bee business. And as I stated before, success in wintering depends almost entirely upon proper ventilation. Stocks, for the first thirty days after having been placed in their winter quarters, should have an abundance of air. I do not even exclude the light, any more than the direct rays of the sun. One more caution, and I am done. Don't let your bees starve to death, and call it some abominable disease. You cannot rely upon old honey, that has been in the combs for years, to winter them upon. Place fresh, new honey in the comb, where they can have access to it, and renew the atmosphere properly, and I think we will get rid of that notorious bee-disease. A. BEEASTICUS.

For the American Bee Journal.

"Ripened" Honey.

With your permission, Mr. Editor, I will take our old friend Charles F. Muth to task a little, for what he says in regard to "ripening" honey. For two years past I have employed 72 four gallon stone crocks, as extracted-honey reservoirs, keeping them when filled uncovered, in a cool, *dry* place. Of clover honey I know but little, but of basswood honey I can say that I believe after five years experience, that there is but one way to get a good article, and that is *not* to take it from the bees until nearly or quite all the cells are capped over. But, says one, "Such a course increases our labor, and decreases the number of pounds surplus." True, but that does not prove that "such a course" is not the only way we can procure HONEY, and not sour nectar. When we get a goodly yield of uncapped honey, it has to go begging a purchaser. The day has come to most of us when we must expect to find a *home* demand for our honey, and must necessarily do something to increase this demand; I will warrant uncapped honey to *decrease* it. Does not every one of us know that basswood honey, extracted before capped, is more like poor syrup or molasses than like the same honey in the comb, stored on the same day?

I have employed two large tin tanks holding 1,000 lbs. that have always been left open for the very purpose Mr. M. speaks of, and I have yet to see the first

pound of basswood honey taken uncapped that did not sour more or less. The mischief is, that the very honey that it pays best to extract, viz.: that which comes with a rush, is surest to sour.

Those of us who do let this *nectar* become HONEY, before we extract it and put it upon the market, must suffer for the reputation given extracted honey by the *green* stuff on the shelf beside it.

I propose to label all my box and extracted honey, and do my utmost to give entire satisfaction to the end. This is the selfish course. There are two kinds of selfishness, which embrace all human action, viz., the wise and unwise. It is *selfish* to be honest, for "honesty is the BEST policy." JAMES HEDDON.

Dowagiac, March 24, 1876.

Maury County Bee Keeper's Society.

The Maury County, (Tenn.,) Bee Keeper's Society held their regular quarterly meeting at Columbia, on Saturday, April 1st.

Present: W. S. Rainey, President; Wm. J. Andrews, Secretary and Treasurer; S. D. McLean, Travis McLean, A. B. Biffle, David Staples, W. A. Alexander, W. F. Moore, N. B. Sowell, —— Timmons, J. C. McGaw, J. C. Moore, —— Estes, T. J. Pickens, Wm. Gilmer, J. H. Gregory, Jno. B. Bray, of Giles county.

Owing to the inclemency of the weather and rumor in regard to small-pox, there was not as good an attendance as usual.

The minutes of the last meeting were read and adopted.

Mr. J. B. Bray, of Giles, asked and obtained permission to offer a few remarks. He thought our Society a good thing, and a step taken in the right direction. He would ask if we propose to hold all our meetings at one place, and suggested that we hold meetings at different points. He would like to have the Society hold a meeting at Culleoka—that if we would do so we would be met by a number of bee keepers from over the line.

The Secretary stated the constitution provided that the meetings should be held at such time and place as a majority of the members present at any stated meeting may determine: that at the last meeting it was agreed to hold the present meeting at his residence, as queen rearing was the topic for discussion, that it might be amply illustrated in the hive, but we had had a very cold snap, which had prevented making any progress in that line; in view of which fact he would move that the question of queen raising be carried over to the next meeting, and that another meeting be held at Columbia the 1st Saturday in May; that one be held at Culleoka the 1st Saturday in June, and the next regular quarterly meeting in July at Columbia, which motion was seconded by J. C. Moore. Mr. J. C. McGaw thought that a meeting at Culleoka would be for the benefit principally of the bee keepers of that section, and would suggest that the bee keepers of that section organize a society, and then let us meet with them jointly on the first Saturday in June. The Secretary's motion was adopted.

Mr. Staples asked if we proposed to discuss the subject to-day.

The President replied that it might as well be opened to-day, and concluded at the next meeting.

Mr. S. D. McLean, who was appointed at the last meeting to prepare an essay on "Queen Rearing," then arose and read the following:

QUEEN REARING AND ITALIANIZING.

Among the varied operations of the apiculturist, the subject of queen rearing and Italianizing is a very important one, and should receive a due portion of that care which is essential to success. To note some points bearing on the subject is the design of this sketch. The most essential pre-requisite is a queen of undoubted purity, which should also be very prolific. The queen's prolificness can be ascertained by inspecting the combs to ascertain the amount of eggs produced in a given time; her purity can only be determined by the markings of her offspring. Should her worker progeny show three well defined yellow bands around the abdomen, with uniformity of color, she may be regarded as having purely mated. But should her progeny be of a mottled appearance, or with but one or two bands, she is impurely mated and worthless to breed from. For the information of those who are uninformed, as to the markings of pure Italian bees, it will be necessary to remark that the first band next to the thorax is very narrow; the second is broad, and separated from the first by a very narrow black ring; the third and last is not so broad as the second, but is well defined. They should all be of uniform color. Bees marked thus may be regarded as absolutely pure.

In addition to a new queen, a full colony is a necessary adjunct, for the building of and caring for queen cells. The colony should be in a prosperous condition, having great numbers of young or nursing bees, with plenty of honey and pollen, especially should there be plenty of pollen in the hive or coming in. From this bees prepare a milky white fluid, said to undergo a partial digestion in their stomachs, which they feed to their young while in the larvæ state. A superabundance, called a royal jelly, is fed to the young queen to fully develop her for the duties she is to perform as future mother of the colony. A marked distinction is

observable in queens raised from cells as above nourished, and those raised in weak and half starved colonies or nuclei. While the former produce large and well developed queens, the latter produce correspondingly small and weakly ones. In addition to the above, it is necessary to have plenty of Italian drones in the apiary, that the young queen's chances for purely mating in her bridal trip, may be increased. Preliminaries having been gone through, some practical instruction becomes necessary. Several ways are practiced by different queen raisers to arrive at the same result, and success crowns the efforts, more or less, of the different methods practiced. Every queen breeder must have queen cells, raised either in a full colony or nucleus, and this is attained by rendering the bees destitute of a queen. Those raised in a full colony are thought by most queen raisers, to be the best. To secure the benefit of a queenless colony, and yet preserve the queen you breed from against the risk of being introduced to a strange colony of bees, for each batch of queen cells raised, is certainly the best economy. To do this, select another strong colony with plenty of young bees for nurses, remove the queen and shake the bees from the brood combs, being careful not to leave a comb containing any eggs or brood. Then from the colony you have selected to breed from, take as many combs containing eggs and larvæ as was removed from the first, and after having shaken the bees from them, give these last named combs to the queenless colony, and place the combs taken from the queenless colony in place of those removed from the colony you bred from. This is simply an exchange of the combs of the two colonies. In like manner, there may be an exchange of combs with the colony containing your fine queen and another of the lapse of eight or ten days, for the black brood placed in your breeding colony in the first exchange will be so far advanced in that time that it would be impossible to raise a queen therefrom. About ten or twelve days after the exchange is made, there will be from three to a dozen, and sometimes many more, cells capped and ready to be disposed of. If removed sooner they are liable to be injured or destroyed, as they are very tender—the least jar often causing death to the embryo queen. The disposition made of these cells for the purpose of raising queens for market or Italianizing black bees vary, as stated above, with different breeders. Simply for the purpose of Italianizing, an easy method is to insert one of these cells in each of your black colonies, the black queen having been removed the day previous. This method, though often practiced, is objectionable, as the colony is too long without a fertile queen, which tells heavily on the colony. Another method practiced is to insert these cells in frame of nursery cages, a cell in each cage, and suspend the frame in the midst of a strong colony of bees until the young queens are hatched, and then divide the colony into as many nuclei as there are young queens in the cages, and give one of the queens to each of the nuclei. After the queens are fertilized, the nuclei may be built up into strong colonies, or the queens removed and introduced to black bees the usual way. Still another method practiced, is to remove these cells entirely from the bees, and hatch them by means of artificial heat, and so soon as hatched they are given without any precaution whatever, to queenless nuclei or colonies. The reason for introducing such young queens without the necessary precaution, is from the fact that they are destitute of that peculiar scent acquired by contact with other bees, (their only apparent guide in detecting strangers) and consequently they are not regarded as intruders. But the method most generally practiced, and most convenient for the mass of the queen raisers, is to form nuclei of two or three full sized combs, with plenty of bees to protect each nucleus and generate the requisite amount of heat for the full development of the queen, and insert a cell in each. When the young queens hatch and become fertile, they may be removed and introduced to black bees in the usual way. The nuclei are then ready for the insertion of other cells. This may be kept up so long as there are drones in the apiary. To form these nuclei, take from a strong colony a frame of hatching brood, together with adhering bees, also another or so with bees, and a sufficient quantity of honey to last the nuclei a few days, until the bees begin to work. Supply the place of those removed from the hive with empty frames or combs. Care must be taken in removing the combs from the hive that the queen is not removed also. The best time to form nuclei, is late in the evening. By morning the bees are more composed than if allowed to fly out immediately. Many of the old bees will return to the parent hive, but the young ones, having never flown from the hive, will remain not knowing where to go. There are two methods of rearing queens from select eggs or larvæ, one called grafting, the other inoculating, which are gaining some favor with apicists of late. They each want more evidence of practicability, before recommending to the tyro in apiculture. In the first method a black colony of bees is deprived of its queen, and in five or six days there will be queen cells built with royal jelly and larvæ in each. Remove the larvæ, and select a larvæ just hatched from the egg of a fine Italian queen. With some suitable instrument, as the point of a toothpick, carefully re-

move the selected larvæ, and insert it in the cell from which the black larvæ was removed. The bees will accept the change and rear a queen therefrom. The other method is to insert the selected larvæ in incipient queen cells of a queenless colony, and the bees will supply the royal jelly, and from the inserted larvæ, rear a queen.

The Secretary said he had learned since coming into the room that Mr. C. C. Vaughan, who had also been appointed to prepare an essay on the same subject, could not be present, as he had gone into the *queen* business more extensively than any of us—that he had a *young one* at his home that would weigh from fifteen to twenty pounds.

The society unanimously voted that Mr. Vaughan was excusable for his absence.

The Secretary moved that the further discussion of the subject of "Queen Rearing and Italianizing," be postponed until the meeting in May, and that as nearly every member present had had some desertions in the last few days, we take that subject up. Adopted.

The President called upon the Secretary to open up the question. The Secretary replied that he preferred to hear the experience of others, and jot it down; would state however, that he was in his yard on last Friday; that he observed one stock on the eve of swarming or deserting; that he closed up the entrance to the hive, and that those which had got out, after flying around for a while, returned and re-entered the hive; that a fugitive swarm entered the yard during the evening, but as he was not present, preferred to have Mr. Staples speak of it.

Mr. Staples said he had plenty of experience in that line this year, and that he could not assign any satisfactory cause for it. Have written to different bee journals and some prominent apiarists, but had been unable to get any satisfactory reasons as to the cause or remedies therefor. They had deserted brood in all its stages, with an abundance of pollen and honey. In the hive referred to by Mr. Andrews, I opened it in the evening and found everything in plenty; on the same day started a nucleus with the combs and brood of our Dadant queen; had caged and placed the queen of the stock of bees of which the nucleus was formed, and laid the cage containing her on top of the hive. Shortly after I discovered something wrong in the yard, and found an intruding swarm entering the nucleus. I caught the queen and caged her also; she died during the night. I fumigated the bees and they took up peaceably with each other. Like Mr. McLean, I like strong colonies for early queen rearing, and had selected the strongest in our yard, but those refugees entering it made it much more so. By having strong stocks to rear from we get more and better queen cells. Was not able himself to assign any reasons for bees deserting; there was a general rule among bee keepers that bees would not desert brood and eggs, yet it had failed in the last few years. We have had an open winter throughout the United States, and bees have been rearing brood all the while; the mortality has also been great in this locality, all stocks have young bees, and he could not see why young bees should be playing such tricks, unless it be that when the weather is warm, and the bees flying out in great numbers, induced the queen to come out. In the case on yesterday it was not poverty—neither was it natural swarming—but something uncommon.

J. C. MOORE. Did you notice whether the queen was with the first swarm?

D. STAPLES. Did not; but found plenty of eggs in the hive, showing that they were not queenless.

S. D. MCLEAN. In reference to queen being with them would say that a queenless colony never swarms out. If queenless and wanting in store they will die in the hive. Yesterday was a warm fine day. We have had a remarkable winter, and our bees were very weak. I think there are several causes for their deserting—one cause is their being robbed, and another is want of stores.

J. C. MOORE. I made the inquiry of Mr. Staples because I had a swarm to come out which had no queen, yet they deserted the hive by swarming as they do in natural swarms. I found the queen dead on the bottom board.

S. D. MCLEAN. Perhaps the dead queen of Mr. Moore may have been the queen of some other colony which had deserted their hive and intruded upon his. In such cases bees form a complete knot over the queen, and hug her as it were to death. It may have been a queenless hive, and an other queen attempting to take up quarters in it.

PRESIDENT RAINEY. That is tact more becoming to a *lawyer* than a *doctor*.

J. C. MOORE. I am satisfied that there was no other queen, and that the dead one was the one belonging to the hive, for I had found her a few days before in a helpless condition, and had offered her some food, in endeavoring to partake of which she had fallen to the bottom board. I am very positive that she was the one belonging to the hive.

D. STAPLES. Mr. President, in the discussion of this question a new subject has arisen—that is the instinct of bees. He did not think that bees were governed by instinct any more than any other animals; they were not governed by instinct but by surrounding circumstances.

S. D. MCLEAN thought they were governed by instinct; they of themselves have made no improvement.

D. STAPLES thought if they were governed by instinct they would invariably do the same thing as it was implanted in them by the God of Nature.

S. D. MCLEAN thought it was instinct that prompted the bees to remain and die with their queen, and if they had lost their queen, with no means left them to rear another, to die in their hive.

D. STAPLES thought if you got instinct into the bee that you could also get it into man. The dog and horse had forethought to return to their homes, as well as all the lower order of animals; that bees had made improvements; they make cells a certain shape and length; if combs are much apart they will make them longer; had had them two inches deep. If they hadn't room to build another comb, but too much space between them, they would fill it up by making their cells longer. Under circumstances they work as man does.

The Secretary then exhibited a Quinby smoker, a Root queen cage, metal corners, the different size frames in prominent use, specimens of artificial comb foundations and some other novelties pertaining to the apiary, which attracted considerable interest.

S. D. MCLEAN was quite sure the *reason* of man had not equaled the *instinct* of the bee in the construction of combs.

D. STAPLES asked for further time for the executive committee to make a report.

Mr. J. B. BRAY, of Giles, was unanimously elected a member.

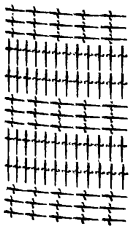
S. D. MCLEAN moved that the society adjourn to meet on the first Saturday in May, at Columbia. Motion adopted.

WM. J. ANDREWS,
Secretary and Treasurer.

For the American Bee Journal.

My Observations.

DEAR SIR:—Last summer I hived a swarm of bees in a box hive, and put them under the shade of a tree, and in a few minutes I saw that they were coming out and going back to the gum they came out of. I turned up the hive to see if they were all coming out, and I saw the bees in the top of the hive in as compact rows as they could be, in the following way:



One row lengthways and the next crossways, and so on, clear across the top of the hive.

I was convinced that by this way they make their comb the exact distance apart, and that is the reason that the Italian bees are larger when they build their own comb, as they are larger than the black bees. The reason of the bees returning was because the queen had failed to come out of the old hive.

Enclosed is a bee killer. I saw it holding a bee by the bill, and it held on to it till the bee died. It was on the under side of the bloom of the golden rod; enclosed is the insect. It has been in a glass jar for three months without anything to eat, and is still living when I start it. I do not know whether they are plenty in this country or not.

ROBERT T. JONES.

Flat Rock, N. C.

For the American Bee Journal.

Cheap Winter Protection for Bees.

I have lately devised a cheap winter protection for bees on their summer stands; and as I find that it fills very well the aim in view, I give it herewith to the readers of the old AMERICAN BEE JOURNAL.

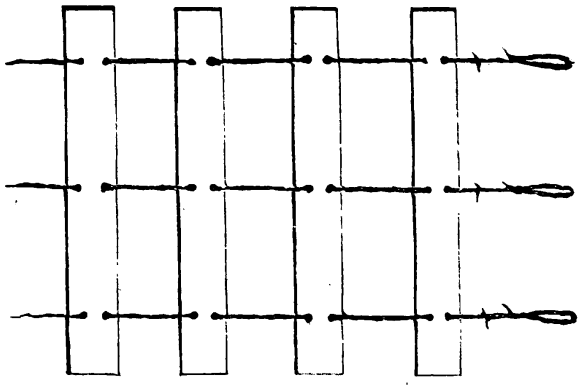
Cut some plasterer's laths in three equal parts: you will have small laths 16 inches in length.

If your hives are very tall,—for instance, as tall or taller than the "King," so called the "American hive,"—cut the laths in two.

Pierce two ¼ inch holes at each end, three inches from the ends, and two similar holes in the middle of every lath.

To do the work quickly, use a pattern. Put the pattern in the bench press, with 3 laths, and with a wimble you can pierce three holes at the same time. These twin holes should be pierced crosswise, ⅜ of an inch from each other.

When your laths are pierced, take a tarred string and pass it into the twin holes at one of the ends of each lath, so as to have every lath about three or four inches apart from each other. Pass a second string in the twin holes of the middle of the laths, and at last, a third string in the holes of the other end of the laths, taking care to allow about the same distance between every lath; i. e., 3 or 4 inches. Then you have a kind of rope ladder, whose steps are three or four inches apart.



Now go to the hive to be protected, and spread this ladder behind the hive so that the middle of the ladder corresponds with the middle of the hive. Cover the ladder with straw, one foot or more thick,

taking care to spread the straw evenly. With the help of an assistant, draw the ladder and the straw against the hive, bringing the ends of the string ladder against the sides of the hive, taking care to raise, at the same time, the laths on their ends; then tie the strings firmly in front of the hive, and it is done.

As the tarred strings cannot be tied easily, on account of their stiffness, I lengthen them with small bits of common linen string, which slide more easily while placing the straw against the hive. I take care not to put straw in front of the hive,—to let the sun warm it. I have more than 60 hives thus protected against cold winds; and I think they are as well protected as if they were surrounded by stacks of straw.

The expense does not exceed a few cents for each hive. The implements will last a life-time, if put in the barn after winter. The hives have not been disturbed, for they have remained in the same place, and the straw will be easily removed in spring. I recommend this protection to all the bee-keepers who inhabit the prairie.

Hamilton, Ill. CH. DADANT.

For the American Bee Journal.

Reply to C. P. Dadant.

It has been truly said: "If we expect to arrive at the truth, we must have no *desire* as to what the truth may be." Probably Mr. C. P. Dadant has not worked as hard, produced better extracted honey, nor sold at as low prices as I have, to build up that "home demand" he refers to. At least, I have made a specialty of the above.

One peculiar fact in the matter is, that all these parties who can sell all their honey right out, about home, for 20 to 25 cents per lb., cannot sell one pound more. Not a man of them will pay me 12 cents a pound for just a little more.

Honey can never become a "staple" at 15 cents per pound, retail. Besides, it costs 10 per cent. to retail it, whether *we* do it, or hire our grocer to do it for us.

"Granulated honey" is not a merchantable article, outside the apiary, and very few will buy it there, though all think it "so nice."

How can honey become a "staple article" at $1.80 cents per gallon, while the best cane syrup sells for 90 cents per gallon, and is superior to honey, for every purpose except sauce?

It seems strange that consumers should become disgusted with "adulterated honey," when we producers cannot tell it from the genuine.

Adulterated honey wont trouble us any longer, as honey must rank secondary to sugar syrup when sold in bulk, for cash. It does that now.

Friend Dadant: I "tested" the "comb. surplus production" business several years ago. Even if 25 pounds of honey is required to produce one pound of comb, that does not favor your position, as I can see. Even though I could see no other cause for my bees dying, except thin, watery stores, they did not die from that cause, as I afterwards proved, and I did not say they did. When honey becomes a "necessity of life," it will be when it is cheaper than other necessities; say, four or five cents per pound. The same outlay in bread, however, would sustain life longer.

Perhaps some kinds of bee-keeping is profitable, in some places, with some men: still, I think with friends L. C. Root, Capt. Hetherington, and many other special producers, that whoever gets money or "profit" out of bee-keeping, will be sure to earn all he gets. The reason that Heddon still sticks to bee-keeping is, because he cannot get out. When I can sell out at 25 per cent. discount, if I don't sell, then Mr. D. will have the palm.

Why couldn't Mr. D. as well have said: "Don't extract honey till *all capped over*—if *honey* is wanted, and not nectar." Particularly is this rule imperative during the bass-wood harvest.

I will agree that there is "room for all" who can succeed in making apiculture profitable. Just at present there seems to be as much room for the "dishonest ones," as any other class. Some who have done most at "proselyting" are now well proven to be among the "crooked." Let each person decide for himself how he will take his surplus, being governed by the demand around him.

Nearly every mail brings in one or more letters congratulating us on the course taken at our State Convention at Kalamazoo, in regard to the overproduction matter. Probably, at this time, thousands are thinking as we do, but still carry little white flags of truce.

Mr. Editor, will you please publish the claims (if not specifications and all) of Mr. Coe's house-apiary; also of Mr. Wagner's (now Mr. C. O. Perrine's) comb-foundation; that the bee-keepers may know what they really own, and how long the ownership will last.

Let the bee-keepers of this country know what these men do, and do not, own, if they expect us to respect their claims. Models embrace too much, usually, and far more than the patentee has been allowed to claim.

Spring very backward, and many bees dying, in this locality. JAS. HEDDON.

Dowagiac, Mich., April 7th, 1876.

[As these are matters of general interest, we shall be glad to publish the patented features owned by Messrs. Coe and Perrine, if furnished.—ED.]

For the American Bee Journal.

The Black Bee—Cause of its Running Out.

Under the head of The Black Bee, it may not be thought improper to class the three varieties of black, brown and gray bee, although they may be distinguished by peculiar characteristics, as but varieties of the same race, for certainly as regards mildness of temper, fertility and honey gathering properties, the large gray and brown bee are certainly preferable to the small and vicious black one; yet, as in respect to any observations we are about to make in relation to the stock deteriorating or running out, what would be applicable to one, would be alike true of the other. We have thought it better therefore to designate all as the black or dark bee.

In passing through the apiaries of our friends in the country, how frequently do we hear such remarks as these: "Our bees have ceased to be profitable;" "The timber has been cut off and too much clearing has been done;" "My father had excellent success and my grand-father before him even better than he." So frequently have we heard these and kindred observations that we have been led to look closely at the subject and see, if we cannot assign a better reason why an industrious little worker should cease to be as laborious and profitable (all conditions being equal) as in earlier years. And yet while reluctantly we would listen to the complaints of our friends at their loss, we would occasionally happen upon a more fortunate one, whose apiary was in a prosperous condition, stocks increasing, and the product of honey exceeding that of former years. (This cannot altogether be accounted for in the fact that this one is a more careful bee-keeper than those just before mentioned.) But upon further inquiry we learn from him that on several occasions he has been fortunate enough to find bees in a tree in the woods which he has secured and brought home, and at present they serve as an increase to his stocks, or at another time he has found a swarm hanging upon a limb or bush, which he has succeeded in hiving and placing in his apiary. But what is more probable than either case, he has been at a sale some fifteen miles distant where some half dozen strong colonies were offered at a sacrifice, and which he has purchased and placed along side of his own. Let us see if in this fact we cannot learn the secret of his success—if in this admixture of *foreign blood*, (shall we call it) we cannot account for his more prosperous condition than that of his neighbors.

How common a practice it has become for farmers to introduce fresh blood among their cattle, their sheep, their hogs, and even their poultry, indeed has this become of such universal practice, that only he who acts upon it, is regarded as the successful and thrifty farmer. This course of breeding then being so generally sustained, by those who have found it so much to their interest to follow it, and, as we have said before, of such almost universal adoption, as it holds good and has proven profitable in the instances heretofore cited, why then should it not be acted upon in the proper propagation of our bees? Believing then, as we do, that the long continued course of in-and-in breeding has contributed to a greater extent than all other causes combined, to the deterioration of the black bee, we shall offer a remedy, and one which we think will not only accomplish the desired end, but will be of easy execution.

We hope it will not be thought that we have here assumed that the dwindling or running out of the black bee proceeds from any other than *natural causes*, which certainly can be accounted for in the plain reasons heretofore given. Far be it from us to give credence to such an idea, when for years past we have considered that our most productive honey-gatherers and most prolific breeders, were a cross of the Italian with the gray bee. It will be seen that the prime object to be attained, is the admixture of a strain from which we have not hitherto been breeding. We care not if you please, that you select the least to be desired, the small black bee, our aim should be to carefully avoid the dangerous system of in-and-in breeding which we make free to say has been the cause of the deterioration, and *not a failing of any distinct species.*

Let our friends who have met with the serious reverses before spoken of, make an arrangement with a fellow bee-keeper some ten or fifteen miles distant to exchange an equal number of stocks, (say five or six) we care not whether they all be the black bee, and our word for it, the result cannot but prove satisfactory to both parties concerned.

Just bv way of parenthesis, we may be pardoned for here stating that this is not intended as a *special plea* for the black bee, for we have not a single colony among all our stocks.

But to the main question again. To attain the highest degree of improved breeding in our bees, it cannot at this late day be denied that an addition of Italian stock must be resorted to, however small that addition may be at the outstart. We have bred the Italian bee constantly since 1861, (of the first importation) and as we said before, our best honey producers, (at least of box-honey) were a cross of the Italian with the gray bee. This indeed proved so valuable an acquisition, that

from one of our best cross-bred queens, we have bred the most satisfactory stocks we have ever kept.

In the penning of this article, we have no axe to grind, we have heretofore bred queens only for our own use, and that of our immediate neighbors, but on the other hand we have had an earnest desire to reach the facts in the premises stated in our caption, and so far as we could, present a method by which future losses might be prevented. Should any of our brotherhood differ with us, or if agreeing, point out a clearer remedy, we should be heartily glad to learn it.

Should this hastily written sketch meet your approval, we shall at an early date write an article on "Improved breeding of the Italian bee." We affirm without fear of successful contradiction, that the Italian can be improved in a more marked degree than can any of our native bees.

WM. S. BARCLAY.

Beaver, Pa., April 4, 1876.

MOSES QUINBY,

A MEMORIAL ADDRESS DELIVERED BEFORE THE N. E. BEE-KEEPERS' ASSOCIATION, FEB. 3RD, 1876, BY P. H. ELWOOD.

In the history of every profession or occupation we find the names of a few who have outstripped all competitors; men possessed of that rare gift, power of original thought; pioneers who have explored an unknown wilderness and mapped it for future possessors. In the history of bee-culture there are four names that stand out prominently beyond all others: Huber, Dzierzon, Langstroth, and Quinby. Huber, the blind apiarist, who by his great ability and untiring perseverance, discovered more of the interior workings of the bee-hive than any other man that ever lived: Dzierzon, the Quinby of Germany, who confirmed the hitherto unbelieved statements of Huber, and added that equally surprising one of partheno-genesis: Langstroth, our own countryman, inventor of the movable comb-hive (without which there would be no occasion for gatherings like this) and author of a work on bee-culture, that for scientific accuracy and beauty of expression, is not only unsurpassed, but almost unsurpassable: And last, but not least, our own Quinby, who, adding largely to the knowledge of his predecessors, combined the whole into a system of practical management, unequaled in simplicity and feasibility, and finally, as the crowning act of a lifetime spent in the service of others, gave to the world his celebrated discovery, that the liquid part of honey was, under favorable circumstances, entirely evaporated within the body of the bee, a discovery second to none ever made in the natural history of this insect. As very many do not, as yet, accept his conclusions on this subject, I will say that I have obtained from the body of the bee, granular masses that under a microscope of low magnifying power, appear to be identical in composition with similar masses found upon the hive bottom. And notwithstanding the fact that Mr. Quinby is the author of our most practical work on bee-keeping, and, in my opinion, the inventor of the best movable frame hive, bee-smoker, and originator of other devices, too numerous to mention, I yet venture the assertion, that in future years he will be best known as the discoverer of the true nature of the accumulations found beneath the cluster in seasons of repose.

Mr. Quinby's life work was to elevate bee-keeping to the dignity of a pursuit among men, and he has accomplished his mission. Bee-keeping as a specialty will date from his time, and if Huber has earned the title of "Prince of Apiarists," certainly Mr. Quinby is entitled to that of Father of Practical Bee-Culture. He sowed that we may reap. He labored without fee or reward, often, indeed, without an appreciative public. Now that he is gone, bee-keepers will miss his counsels and think more highly of his work. He had not, it is true, the advantages of a liberal education, but he largely supplied the deficiency, by his great observational powers and native common sense.

While he was anxious that the millions of pounds of honey now lost, might be gathered, he had no fears of an overstocked market and often narrated the history of the cheese trade as an illustration, saying that while this industry was in its infancy prices were lower than at present, and that the market was really in more danger of being overstocked than now, as the facilities for disposing of the products of the dairy have increased faster than the production. The history of this business, he thought, would be the history of ours. And after watching the honey trade closely for a few years past, visiting the principal eastern markets, etc., I am compelled to accept Mr. Quinby's conclusions as correct. There may be temporary depressions in this market, as there are in all others; prices may fall below the cost of production; but this will be, not because more is produced than can be consumed at remunerative prices, but because the facilities for handling the crop are undeveloped. Our greatest enemy today (outside of those who sell glucose for honey, and paraffine for beeswax) is the old fogy bee-keeper, who brings his honey to market in the most unattractive and undesirable packages. I find that a very small quantity of his honey will supply a larger town, and that the prices he establishes often prevents the introduction of the better goods. It is to our *pecuniary* interest to make better bee-keepers of such

men. Yet while Mr. Quinby was doing just this very work, many bee-keepers thought him to be seriously injuring their business and were forever crying out, "My occupation's gone."

High as Mr. Quinby ranked as an apiarist, he stood still higher as a man. We who were accustomed to gather at his fireside, can never forget his wholesome hospitality. He was a true gentleman, unfettered by the stifling conventionalities of modern life. He was always the same, always having a hearty welcome for his friends, and a kind word for every one. True to his Quaker education, he was an intense hater of shams, especially of the human kind. He was honest; a characteristic that is getting to be as rare as it is valuable. There is no principle in business better established than that "Honesty is the best policy." Mr. Quinby unlike most men, was honest from principle.

The mental, rather than the motive temperament predominated in him, that is, surplus vitality, would more naturally develop into extra mental work than into intense muscular activity. He was a thinker, an investigator; an originator, rather than an imitator. He was calm and deliberate, not excitable; did not plan one minute to execute the next and destroy the following. As he viewed a subject from many standpoints, he was not quick in forming conclusions. In quickness he could not keep pace with many who were of lighter caliber than himself. Muskets sometimes hang fire, but big cannon are not usually handled with the rapidity of small arms. Slow to anger, he was not tame in spirit when he had just cause for indignation. He had a very modest opinion of himself, and in measuring others, did not set himself up as the standard of perfection, as is the manner of some.

His last years were his best. His best and most enduring work was done after he was sixty years old. His famous assertion then made, so ably defended, that cold *usually* kills the bees, has never been successfully contradicted. He never wrote so well as in the later years of his life. He continued to improve in both subject-matter and manner of expression. His bodily powers were gradually failing him, but his reasoning faculties were never so keen as in the last five years of his life. With more of the elements of the politician about him, he would have ranked higher during life, but his reputation would not have been so enduring. Now his merits are just beginning to be appreciated.

How fitting that a life so calm and pure should have so peaceful an ending. On the 27th of May last, he retired at his usual hour, in seeming good health and spirits. Before the hour of midnight, without awaking from his slumbers, he passed from time into eternity. Thus at the age of sixty-five, ended the life-work of our counsellor, friend and public benfactor. He was more fortunate than the most of men, for he was able to take with him his most valued possession, the hard-earned accumulation of a lifetime—a noble character.

"So live, that when thy summons comes to join
The innumerable caravan that moves,
To the pale realms of shade, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry slave at night,
Scourged to his dungeon, but sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him and lies down to pleasant dreams."

[BRYANT.

For the American Bee Journal.

Partheno-genesis.

In the January number of *Moon's Bee World*, Mr. J. W. Howell expresses some doubt as to the usually advanced theory regarding the production of drones, *before* impregnation, and says further that he has come to the conclusion "that the various writers on bee culture must be mistaken in regard to the rearing of drones, and the whole subject, it seems to me, ought to be rehashed and gotten up on more scientific principles."

As there are many others that have misgivings as to the truth of partheno-genetic production, I have condensed, in the following lines, some information derived principally from German sources.

It is now fully thirty years ago that the Rev. Dr. Dzierson announced, in a quiet manner, that "drone eggs do not require fecundation, but the co-operation of the drone is imperatively necessary for the production of worker bees."

Of course there was no want of persons who were ready, with their pens, to inveigh against such bold attacks upon the holy truths of science; but all who investigated the matter experimentally, were compelled to acknowledge its truth; thus was the sanction of science at last obtained, and the fact or *law* discovered by Dr. Dzierson was thenceforth called partheno-genesis.

But few apiarists push their inquiries any further than the narrow limits of the apiary; but few know whether this law is restricted to the bee alone or whether it holds a wider dominion in animated nature.

Of all investigators of the subject in Germany, Messrs. V. Siebold and Leukart have contributed most towards placing the law upon a firm scientific basis.

The former has given to the public the result of many years' labor in his latest work, entitled "Regarding Partheno-genesis of Anthropodes" (Leipsic). This work exhibits a conscientious and labori-

ous examination of the subject, marked, in the manner of conducting the same, by the greatest perspicacity. The author gives his experiments with seven different species, and closes his work with the chapter summarizing his conclusions.

Early in the controversy regarding the truth of partheno-genesis, the possibility of the queen being a hermaphrodite was seriously broached, but v. Siebold demonstrated the falsity of this proposition. He has likewise discovered that some species produce males and others females; and that this is not a matter of chance, but that the *Polistes*, *Vespa* and *Nemata*, as well as the bee, produce only males, while the *Apus*, *Artema* and Limnadia, always produce females. The same holds true of certain species of hymenoptera. He has no doubt but that further investigation will prove it to be no isolated exception to the law of reproduction, but that it occupies a hitherto unthought-of range in creation.

To such as feel reluctant to abandon the belief in the hitherto universally accepted law or theory of reproduction, which requires, *in all cases*, a co-operation of sexes to produce an animate creature, he recalls the words of Aristotle, "Observation is more trustworthy than theory, and the latter is only to be accepted when it agrees with the former."

JOHN P. BRUCK.

Los Angeles, Cal.

For the American Bee Journal.

Remedy for Foul Brood.

MR. EDITOR.—Some years ago, and during several seasons, about the middle of summer, when the weather was very dry, several of my hives gave forth a very offensive odor, perceptible some distance off, and made me apprehensive that the bees were troubled with foul brood. They appeared to be in a healthy condition, and I did not open the hives to make an examination, but waited to see if such should prove to be the case. After a time the offensive odor ceased to be perceived, and the hives proved to be as healthy as ever. I then came to the conclusion that the cause of it was lack of a supply of pure water, and made arrangements to supply them with it, which I have done ever since, and have not since then found any signs of unhealthiness among any of my bees. On the contrary, I have reason to believe that the plan I have adopted is the surest to ward off disease. And it is my belief that impure water is the prime source of foul brood in any locality, and would earnestly recommend to all apiarists who are troubled with it among their bees, to give this plan a fair trial, feeling confident that if they will do so, all traces of the disease will disappear, and never be known among them again so long as they keep their bees supplied with pure, fresh water, which they consume in large quantities during the height of the breeding season.

On the north side of my apiary is a fence, just outside of which is a cistern of pure rain water. From a small reservoir containing four or five gallons of water, a small iron pipe is conducted under ground about twenty-five feet, terminating in the apiary grounds, in a nipple two feet above the ground, through which a small jet of water issues, falling into a small vase or basin, through which the pipe has been conducted. This is supplied with fresh water daily during the season, and is very freely visited by my bees, especially during seasons of drought, which we sometimes have in this climate. My apiary is not a large one, but on some days I have estimated that over 20,000 bees would visit this little fountain.

Natchez, Miss. JNO. R. BLEDSOE.

For The American Bee Journal.

Honor to whom Honor is Due.

Several times, seeing Mr. Dadant hit at in the JOURNAL, I concluded to give my testimony in case of imported queens. In October, 1869, rather late in the season, I received an imported queen from Mr. Dadant and introduced her successfully. This queen was well marked, but not as light as others I have, but she was the only one I ever had who reproduced herself *every time*, and I raised quite a number of queens from her during three years. This queen was good for four years. At the end of the third season she was superseded, and I found a young queen besides the old mother in the hive. At once I removed the old queen and introduced her to a rather weak colony, where she laid some, but before cold weather set in, I found her again superseded and gone. If I could get a queen like that again, no price would be too high; but this may be an exception, as I paid a few dollars extra for selecting a good queen; and sure enough, I never have seen a better.

Jefferson, Wis. W. WOLFF.

For the American Bee Journal.

Effects of the Extractor on Brood.

My experience and observations on this subject are quite different from any opinions I have ever seen explained.

With an extractor that runs *steady*, it is perfectly easy to turn it fast enough to empty *new* honey in warm weather without the least injury to eggs or worker brood; but it is more uncertain about drone larvæ, as the cells are so large that they lay perfectly loose in the cells when they are as large as half-grown workers, and at that size they are heavy enough to be

removed from the cells with a very low motion of the extractor.

I think those that lose brood by the use of the extractor either turn too *fast*, or their extractor does not stand *solid* and consequently *shakes* and *jars* the brood and dislocates it. But I think it is more likely that the brood is dislocated by shaking or jerking the bees off the combs, and the operator not thinking that he is handling the combs much *rougher* to get the *bees* off than the extractor does to take the *honey* from the cells; and if he finds any dead larvæ in the cells he wrongfully blames the extractor for it.

I have my screens lean back from the centre, which bring the cells more to a level, and the honey is easier thrown out, and the brood being nearer the centre, there is not so much force on it.

Ionia Co., Mich. S. K. MARSH.

For the American Bee Journal.

My Comb Foundation.

Four years since I wrote a friend in Europe to send me the apparatus, in use there, to make comb foundation. He sent me two plates (made of type metal) weighing 26 pounds, but being so busy with my farm I did not use them until last August; and this was how I did it:

I melted good clean wax in a can 15x11 inches, and 3½ inches wide, to accommodate the size of my frames.

Take a pane of window glass 10x14 inches, moisten it with a strong solution of salt water (made with table salt), dip the glass into the melted wax (of 140 to 150 deg. Fahr.) hold it free, so long as the wax is soft, then put the waxed glass into fresh water, and then you can take off the glass two sheets of thin wax, to be pressed in the apparatus for making artificial comb foundation, in a common cider press. Prepare a stand and cover for the metal plates.

I filled the wax can with warm water (110 deg.) and dipped the wax sheets preparatory to pressing, to make them soft enough to receive the configurations. The inside of the metal plates I moistened with a solution of sal soda, to prevent the sheets from sticking, by the hard pressing necessary. After getting off the comb foundation from the plates, I put it in fresh water to wash off the soda.

I used this artificial comb foundation for worker cells, and it was very valuable to me in making artificial colonies. My frames are 11x12, and the comb foundation 8x12; these I placed between finished combs. The bees readily work out the cells; it is pleasant to see them work on it.

The best temperature for preparing the sheets is 90 deg. Sal soda, (washing soda) not cooking soda, must be used on the plates. HENRY BOSSHARD.

Highland, Ill.

For the American Bee Journal.

Bee Smoker.

MR. EDITOR: Fearing there may still be found a few who are deterred from keeping bees from fear of stings, allow me to describe a smoker easily manufactured by any one with a little ingenuity. It is a modification of the Quinby, and though quite as effectual, may be made at a trifling cost. To a two-ounce tin box, solder on one side near the bottom a small tube four or five inches long, leading to the inside, opposite this in the bottom of box punch one-half inch hole and cover with perforated tin or fine wire cloth. This box should be attached by small wrought iron nails or screws to a small pair of bellows made of one-fourth of an inch board and covered with sheepskin, having a hole about three and a half inches from point to correspond with hole in bottom of box. Our own instruments are five inches wide by eight inches long, with spring holding them open attached to the inside, so that they can be worked with one hand. When wanted for use, the box may be filled with a little roll of cotton batting, dry decayed wood or other material. DR. D. R. PORTER.

Long Island, New York.

For the American Bee Journal.

Spring Management.

Now Spring is at hand, and bee-keepers have their bees out of their winter quarters, the next thing in order is to breed them up and prevent them dwindling away during the cold spring months. To secure this, we must see that they are kept warm, and have proper stores and combs.

To keep them warm, the hive must be *tight*, and the entrance contracted until it is very small; have a *good* quilt and some papers over the top of the frames, and take away all combs, if there is more than they can cover; leaving them the *best* worker brood-combs with honey stored in the top of them; make passages through them about four inches from the top, and place them in the front end of the hive, and one comb *full* of honey behind them, and contract the size of the hive according to the number of combs left in it. This can be done in different ways, either by using papers or by tucking the back end of the quilt down behind the combs. Whatever is used, it *must* be *close-fitting*, to keep out the *cold* and retain the *heat* and prevent any *bees* getting behind it and chilling.

Some bee-keepers recommend a board for a partition, but I think either of the others is better, as they can always be fitted to the hive; when in case a hive is stuck up with propolis, it would interfere with the board. The object of con-

tracting the size of the hive is that the bees will not have so much space to keep warm, and can better protect *themselves* and *brood*, and *rear brood faster*.

To induce the queen to deposit eggs, and the workers to rear them, it is *necessary* to keep a portion of the honey *unsealed*.

I have no occasion to feed any artificial pollen, as there is a bounteous natural supply in my range as early as the weather is warm enough to permit the workers to gather it.

As for honey resources, I think, I have as good as the country affords. Yet there are times during the season when there is no yield of honey in the flowers, and yet my bees *never cease breeding* until cold weather in October, if there is unsealed honey in the hives.

To get the best results in breeding, the brood combs *must* be *interchanged* by moving the central ones apart that have the most brood in, and inserting between them the outer ones that have the least brood in, until all are equally filled with brood, and as the colony increases, and the weather becomes warmer, the combs should be moved apart, and empty worker combs inserted between them in the *brood nest;* also empty frames should be inserted in the brood nest as fast as they can fill them with new combs, or better still, to insert frames with combs that were partly finished last fall. The above management will secure the *best* results in breedlng, but when empty combs are inserted for increasing the brood nest, *care must* be taken not to increase it beyond the strength of the colony; or in case of a cold spell they *cannot* protect all the brood, and some of it will be chilled and *lost*, and the *object sought will be defeated.*

Ionia Co., Mich. S. K. MARSH.

For the American Bee Journal.

Extracting from and Exchanging Brood Frames.

Page 210, AMERICAN BEE JOURNAL for 1875, commences an article from W. C. P. I do not know who he is, we always like to see the full name of the person writing any piece. If he does not like to give us his post office, leave that out, but give the name, county and state. He says the bees move nearly all the eggs, etc., from strange combs, or combs from other hives put in with different bees. Now, my experience is entirely different. With my bees it makes no difference whatever. My friend, W. C. P. may have bees of a different disposition from mine.

Some one, in one of the back numbers of the JOURNAL, speaks of putting all the combs back in the hive just as they come out, every one in its own place. We should make our combs every one straight and nice, (and the good apiarist will do it), so that they will fit any place, and in all places. If some of them at first have bumps or raised places on them, spring them back and pare them off until they are even. How can the keeper of many colonies dispatch business and get through in extracting, artificial swarming, etc., where he has to put every comb back in the same position it occupied before? Such practice may do for some persons, but it will not do for me. Some say, do not extract from the brood chamber. I know, under certain circumstances, it is very important to extract from the brood chamber. This is often necessary when we are only using one story hives. If we want honey we must have plenty of bees to gather it. In order to have plenty of bees, we must have ample room for the queen to lay. We know that without the free use of the extractor her room is often encroached upon, and that their instinct is for storing as close to the brood as possible, and that they are miserly and will not eat it out until compelled to do so. I often extract the outside combs of the brood chamber, widen out the middle sheets of brood, and set empty combs in the middle. This gives the queen room to spread herself again. E. LISTON.

Virgil City, Mo., March 29, 1876.

For the American Bee Journal.

Melilot Clover as a Honey Plant.

After a fair trial with the Melilot clover I find it is the best honey plant in America. Sow the seed in April or May, with anything, or any kind of grain, or or on any kind of soil, and it will grow. The earlier it is sown the better. It does not bloom until the second season, generally from the 1st to the 10th of July. It remains in bloom from 60 to 90 days. If you should want to have it come in late, say about the first of August, when you see it showing signs of blooming, cut it back to about six inches high, and you will get a late run of honey, which the bees will store in boxes. Fall frosts will not injure it. I have seen bees at work on it on October 5th. Webster describes it as a great honey plant. It makes a good quality of honey. My bees have wintered on Melilot honey this winter, and they have never wintered as well since I have been in the business. I have lost only two stands out of one hundred and ninety. They show no signs of dysentery, (except the two). They were put in the cellar on November 16th, and taken out about March 10th.

I don't think this clover would be good for cattle or horse pasture, although I have sowed it in my cattle pasture, and they keep it well fed off. On good ground I have had it grow seven feet high. Every other honey plant, last year, failed to give any honey.

I got 6,000 pounds of hay, all from Melilot, and I do know if it had not been for my Melilot clover, I should have failed to get any honey. I don't think there is any other plant that is as good to enrich land as Melilot clover. I think so much of it, I expect to sow forty or fifty acres for my bees. It always blooms when all others fail. I could not keep bees without it. Any bee-keeper who has tried it, will not be without it.

Lee County, Ill. R. MILLER.

For the American Bee Journal.

Can Bees Hear?

I do not claim to be master of bee literature. I have not read near all the books on the subject, nor do I think I ever shall; neither am I master of all their natural powers, instincts, and peculiarities, but I hold that bees have, at least, five senses, and perhaps *six;*—seeing, *hearing*, tasting, smelling, the sense of touch, and *common sense*, this teaches them not to use extravagant means to accomplish small ends.

All the senses enumerated, I think are generally admitted among bee-keepers who have carefully studied the subject, except the sense of hearing. This seems to be a bone of contention. As I stated above, I have not read *all* the works on bee-culture, but all those I have read, are not positive on this point: namely, "*Can bees hear?*" The theories generally admit the probability of their possessing this sense, but as far as I am aware, it has never been demonstrated by actual experiment and proof. One writer in Novice's Gleanings, (I have not the paper with me, hence I cannot give name or date,) who says he has lectured on bee-culture, states, that he has never been enabled to discover that bees can hear, although he has tried many experiments, such as shouting, rattling tin dishes, playing the fiddle, etc.; and this seems to be the general result reached by all those who have tried. Others, again, are firm in the belief that they *cannot* hear. Last winter an experienced bee-keeper offered to bet with me, that I might go down in his cellar among the bees, and shout with all my might, and I could not disturb the bees in the least, so firm was he in his belief that bees cannot hear. I *might* have lost the bet, had I made the attempt, but it would have been no evidence that bees are deaf.

First, allow me to point out the hypothesis that from a natural standpoint would indicate that bees *can* hear.

It is a universal law in nature, that she does not tolerate anything absolutely useless in her domain. Those who are at all acquainted with her workings, and especially those who have studied Darwin, will readily admit this. Nature is strictly economical upon this point, although she is exceedingly extravagant upon others. Take now, for instance, the most perfect of all the creatures, examine him closely and in no part of his body, internally or externally, will you find anything that is actually superfluous; to be sure, there are muscles for which we have no use at present, and "land-marks" which point to a different state of things; of the former we may cite the muscles connected with the ear, which although dormant and useless at present, point back to a time when we had use for them, and could prick up our ears, perhaps like any other ass, or the muscles under the skin, showing that that membrane could be set in motion at a stage of human development, when such a motion was necessary to our well-being. We are also possessed of teeth, called "eye-teeth," upon which there seems to be a surplus expenditure of strength for our present use; we find them developed more in some individuals than in others, protruding sometimes considerably beyond the others; this according to the theory of "evolution" and "progression," indicates that the human race was at one time carnivorous.

Without enumerating more instances, let us apply this end to bees: We find that they have the power common to most insects, of emitting many peculiar noises—they distinctly express anger, contentment and fear. The first, all bee-keepers recognize in the fine hiss, and the change when flying, from the honest hum of industry, to a finer key, which plainly warns you to beware. The second, we recognize in the peculiar hum emitted when the busy workers come home laden from the fields; how often do we see them stop for a moment at the entrance of their domicile and spread their wings, and the sound is immediately recognized as one of contentment and happiness. The third may be discovered by striking the hive suddenly when a peculiar rattling noise will penetrate the whole cluster. There are many other distinct sounds, such as the piping of the queen, and also of the workers when ofttimes they are running over the comb; the different degrees of sound emitted by the queen in her flight, the drone and the worker, etc. Now then, if bees were deaf, all this *music* would be lost to them; and if we apply evolution, it would point back to a time when they *could* hear, but as this would be the reverse of progression, and as it is impossible to see *why* they should need this sense at one time more than another, we must drop it as untenable, and the hypothesis points to the fact that *they can hear!*

Now for the experiment, proving that they can hear: Often thinking of the challenge by the bee-keeper last winter, I was tempted to try some experiment by which my position could be sustained, but having read and heard so much about such trials which proved useless, I had

little hope of success; nevertheless, one time when examining a stand of Italians, when holding up a frame for inspection, I gave a shout, and a rather loud one, when to my surprise and joy at the discovery, every bee upon the comb made a momentary check in her movements—not a motion was visible—but the check was only momentary—they immediately resumed their wonted movements. I have tried this, time and again, with the same result, also by bringing the shout down to quite a low key. I am also quite satisfied that swarms as they issue from the hive, are confused by the rattling of tin-ware, and alight in consequence thereof; but I shall prosecute my experiments still further the coming season, if I handle bees, and hope to make further developments in this direetion. J. D. KRUSCHKE.

Hamilton, Ill., Feb. 10, 1876.

For the American Bee Journal.

Beeswax vs. Comb.

MILK AND HONEY APIARY,
BEESWAX CREEK, April 6, 1876.

MR. EDITOR: I thank you very cordially for the notice of that part of article referred to as page 104, namely that "Honey comb is one thing and beeswax another and very different thing." I am not in the habit of noting small typographical errors or criticisms on anything I may write. (This with me is a rule,) but in this case, with your permission, I will make an exception and proceed to show some of the facts, which I suppose to bear on the opinion expressed. I have this day under a strong magnifying power, examined some small flakes of broken comb, and also, some much thinner shavings of the same comb, melted on thin manilla paper. After cooling, the melted side closely resembles the unmelted flakes in texture, no real difference appearing. The shaved side is compact and shines like polished silver, and while of the same thickness as the flakes of comb, or even much thinner, they are much more tenacious and malleable. Of course the wax is homogeneous, while in thick places at the corners of the cells the walls of the cells are easily separated, small flat particles cleaving off readily. These particles seem to be patches overlapping each other, and forming the thickened walls of the cells. No one can fail to see the difference, even without the aid of a microscope.

Honey comb is not all alike; it differs not in thickness only, but in permeability. Honey comb not unfrequently has a wet or oily look, and as bee-keepers say, "sweats." Honey in boxes often has this look, and on close examination, the honey seems to have soaked into and through the caps. No observant box-honey raiser has failed to notice this not uncommon feature. In the fall of 1873, I had hundreds of boxes filled, and capped perfectly, which would not hold their contents, while on the hives even. The caps remained perfect, but the honey escaped. The bees thickened the caps, but still honey got out. Many of the combs contained hardly any honey, while others had only a few cells in different places, which were empty. Many of the combs could be sliced off just beneath the caps, without touching honey at all. Nearly every box was from eight to thirty-two ounces below weight, while the boxes were quite full of very pretty comb.

Honey comb rapidly decomposes in a damp, warm atmosphere. This is shown by leaving honey comb in shady, damp places in the grass, where it soon loses its plasticity and adhesiveness.

Hives of bees wintered in cellars or on their summer stands, frequently have mouldy combs, the edges of which are so decomposed that they seem destitute of wax. The form of the cells may remain, but the substance is so disintegrated, it will scarcely hold together.

From the above, Mr. Editor, I trust you will see that honey comb, while, perhaps, chemically the same as beeswax, is not like beeswax in those features which give comb-honey its peculiar virtues.

Beeswax is not soluble in any of the conditions given above, neither does it disintegrate in the mouth like honey-comb. "The proof of the pudding is in chewing the string."

Now, Mr. Editor, as I said in the article referred to: please give us a lift, if for no other purpose than self-preservation, still give us a lift.

People who buy comb-honey do so, not because it is pure, nor because it is honey in the comb, but because the comb heightens its flavor and enhances the pleasure of eating it.

Need I say that *beeswax foundation* will not *heighten* the *pleasure* of eating honey—not *muchly!*

The card of C. O. Perrine, on the cover of the current number, throws some light on this subject, which I trust you will pardon me for referring to, as it may be even more significant than the above facts.

Mr. Perrine does not cherish, it is presumed, a very friendly feeling towards comb-honey producers, neither the producers of extracted, as his letters and articles, previously written, will show. Said honey-producers have taken him as the representative man, and the great head of the "ring honey-adulterators." The cry of adulteration on every hand, has been one of the leading causes, why his and other fancy-jarring-honey establishments have been compelled to run "Kanuc" and other fancy brands of syrups in connection with honey.

In the infant days of honey-jarring, it

sold rapidly at fancy prices, and nothing better was needed. Houses sprang up like magic, and fortune seemed to smile. But from some causes, probably a *Democratic* House, or *unbalanced Congress*, the producers began to clamor, and down went the honey-jarring business.

If parties who have been, or are now, in the jarring-honey trade, have it in their power to prostitute fancy comb-honey, either in boxes or small frames, and so have their revenge, it is not unlikely that it will be done.

There is but one way for the producers to prevent it, and that way is *potent* and all powerful, and of like interest to the producer of extracted, as well as comb-honey. Namely, to raise their own starting comb, and encourage others to do the same. It can be raised with bee labor for less money, and on *long time paper*, and without forwarding money to any parties, however irresponsible, accompanying the order. Let no man fail to inform his neighbor of the danger and expense attending the taking of this *charming bait*, except for the mere cavity of the hive, and for *brood purposes* and *extractor only*; for such purposes, such foundation may pay, but I have my doubts even for that. If the foundations are to be sold for frames and boxes of certain sizes in measurement, why not sell the foundation by the foot, so parties wishing to purchase, can know the expense before writing so many letters and paying so much postage?

The only clue given in the card as to expense, is that there is material enough in the foundations to lengthen out the cells and cap them over. Now that is very fine. How glad the poor *overworked* worker bees will be; no wax to make, nothing to do but preach, doctor, make laws; be the happy middle man, and make money. "How skillfully he builds his *sell*, how skillfully he spreads his wax."

Suppose one pound of foundation to furnish cell-room for twenty pounds of honey, (which is not far from the usual rate), and a Langstroth hive will hold sixty pounds of honey, we now have the amount of foundation necessary for the work, and it weighs three pounds and cost *net* three dollars and sixty cents. The net profit on extracted honey would be about three cents per pound, if sold at ten cents, which is a fair price by the barrel. By this calculation it will be seen that one hundred and twenty pounds of honey could be given the bees for doing the same work—that is for filling the hive with combs. Now what is the result? Three pounds of comb would consume sixty pounds of honey, and there would be sixty pounds left—which would be just enough to fill the combs in the hive with honey, and the colony would be in the best possible condition for winter. *Do figures lie?*

I am very glad if comb foundations, suitable for *breeding* purposes and *extractor*, can be made *cheaper* than the bees can make them, and if so, it is reasonable to presume a large market awaits their production; but for *comb honey* to be sold to *consumers*, I am *decidedly* opposed. Men who buy comb-honey, very fine to look upon, will not fail to find that appearances are often deceptive; and especially will this be true of comb made of beeswax.

If comb honey is thrown on the market, as above represented, the *consumer*, who is an *epicure*, not only in *looks*, but in *fact*, will not allow his *palate* to be *imposed* upon by his eyes the *second* time. He will neither buy the fancy comb or jar honey at all. He will prefer to melt his own *sugar*, and buy his own *molasses*, and *pocket* the difference. The matter of cheapness will be a great desideratum at this time of low prices.

It is an unsolved problem whether such combs, as are advertised, can be used to compete with bee labor, with honey at its present price. *Let us have the price per foot*, so that we can decide for ourselves and take the responsibility.

The bee business has, like other industries, its draw-backs, but it is not likely to be abandoned by those having a *choice location* and experience, even should prices continue to decline.

T. F. BINGHAM.

For the American Bee Journal.

Eccentric.

"Well, well; if there isn't Eccentric, sure as the world! We thought he had gone to the Black Hills, or California, or some golden country;" we hear in imagination, as the above heading greets the reader's gaze. Really, it has been a long time since we sent you greeting, dear old BEE JOURNAL; but it was not because of any lack of interest in your welfare. Many times during the past season, had we intended to sit down and tell you of what we were doing; but the press of business has prevented. But to-day (March 17th, Centennial year,) we have sharpened up one of "Faber's Best," and as the raging storm from the great North West renders out-door labor not particularly inviting, have concluded to pencil a few thoughts for your pages.

The winter, thus far, has been very mild, with little snow; so little, in fact, that a sleigh ride has been a luxury indeed. But we have had rain in great abundance, and winds without end, almost; and to-day the fast-falling snow is driven across the prairies with a fearful velocity. Only a few days since the bees were flying freely and gathering pollen;

the robins were singing, and the frogs croaking; even the agile musquito made music for our ears (and work for our hands), while the soft balmy air and radiant sunshine betokened an early advent of the season of flowers. But alas! for our hopes; to-day has a wintrier aspect than had any of February's. The time cannot be far distant, however, when spring will come to stay, and usher in active operations in the apiary. May it come speedily!

We were much interested in the great commotion which those active fellows over in Michigan created at their convention, held in Kalamazoo, in December last. The cold stream of truth which they poured upon the red-hot prejudices of self-interest and self-aggrandizement made some steam and a little smoke. It really was amusing to see with what alacrity the editor of the *Bee-Keeper's Magazine* donned the garb they had prepared for him; and no less so to witness his frantic gestures and wry grimaces in endeavoring to wear the garment. But it seems to have been too *tight a fit*, as he speedily boiled over with abusive epithets and harsh invectives, showing the spirit of gall and bitterness he was in.

We heartily sympathize with the efforts of the Michigan Association to bring out matters in their true light, and are pleased to note the fact that the kee-keepers of the country are waking up to their true interests. It was only necessary to set the great mass of the bee-keeping community to *thinking*, in order to insure a satisfactory solution of the problem, in our opinion, as we have full confidence in their discretion and good sense.

But we cannot concur in the ground the Michigan Association took in reference to comb honey, albeit we confess to having believed that the extractor was responsible for the unsatisfactory condition of our American honey markets. But a somewhat careful investigation of this subject has resulted in the following conclusions: It is not for the interest of the apiarist who obtains his surplus with the extractor, to raise comb honey, for many reasons. In the first place, he would have to entirely change his method of management; discard his present appliances for new ones; adopt a system of manipulation with which he was not familiar, and which would require years to master: and finally, perhaps, sell his box honey for a small advance over what the extracted article would command. It is becoming more and more apparent that the difference in price of box and extracted honey will gradually lessen until both shall command *about* the same figures. While we do not question the statements of some of the Michigan bee-keepers that *they* "can obtain as much comb honey in small boxes as with the extractor," we *know* that the *great mass of bee-keepers cannot do it.* There is a science in obtaining box honey, which requires years of study *and* experience to master.

Then it seems there was another fraud among the honey dealers. We had some personal acquaintance with Wm. M. Hoge, *alias* "John Long," when he was a member of the firm known as the "Chicago Honey Co." Of course New York presented a much larger field for his operations. But what were King & Slocum about during all this time, that they did not discover his tricks? Writing up advertisements, we presume, of that "E pluribus unum" bee hive, instead of looking after the interest of bee-keepers.

It was with unfeigned pleasure, Mr. Editor, that we perused your announcement in March number that the good old RELIABLE AMERICAN BEE JOURNAL would continue to be devoted to the interests of the honey producers of the world. We need one journal, surely, to represent our interests, and the AMERICAN will do. With that on our side, and open to us all, we can afford to let the *Magazine* abuse us, and laud its "fixin's for sale;" can afford to let *Gleanings* learn how to wipe dishes, chew gum, and tell about "our universal implements;" yea, and we can afford to let the *World*, through its ancient typography and mutilated English, discourse upon the wonders and attractions of "Orange Culture," "the lands for which we have for sale." Ah, Mr. Editor, "there's tricks in all trades but mine," most assuredly.

In conclusion, lest we might otherwise become the target for the anathemas of the puissant pens of liliputian minds, we will simply say that all the above is from your old friend, ECCENTRIC.

For the American Bee Journal.

Bee-Keepers' Society Organization.

The first meeting of the Lancaster County (Pa.) Bee-Keepers' Society was held on March 13th. A permanent organization was effected by electing Peter S. Reist, of Manheim, President; J. F. Hershey, of Mount Joy, Vice-President; and A. B. Herr, of West Hempfield, Secretary. The following members were present: H. B. Nissley, East Donegal; Elias Hershey, Paradise; J. Kepperling, and A. H. Shock, Conestoga; J. F. Hershey, Mt. Joy; P. S. Reist, Manheim; S. G. Garber, Rapho; A. B. Herr, West Hempfield; Joel Fisher, East Lampeter; and Leonard Fleckenstein, Manor. The above-named gentleman own 300 hives, and represent 1,000 hives as belonging to neighbors who are expected to join the Society at its next meeting. The first subject brought before the society was, "Will bee-keeping pay?"

J. F. Hershey said that bee-keeping

paid him very well, out of the money he had invested in bees, and said that he made 100 per cent. He did not keep bees for honey, but had sold $600 worth of queens during the past year; he also sold some honey, but kept no account.

Messrs. S. G. Garber, Elias Hershey, and Leonard Fleckenstein, spoke in favor of bee raising, and said that they were all well paid for the interest and labor bestowed upon the bees.

Peter S. Reist thought bee-keeping, if understood rightly, would pay better than any other kind of business, if only fifty per cent. would be made on the amount invested, it would be paying very well.

The next question discussed was, "Which is best—the Italian or the black bee?"

Elias Hershey favored the Italian bee, on account of its swarming qualities, and that it could gather more honey than the black bee.

J. F. Hershey also favored the Italian bee; they work better and protect the hive from moth much better than the black bee. He preferred crossed bees for making honey.

Leonard Fleckenstein was very much in favor of the Italian bees, but as regards the gathering of honey, he had a colony of black bees that would gather more than the Italians.

"Do bees injure fruit?" was next discussed.

J. F. Hershey did not believe bees would destroy grapes, unless the grape was already partly destroyed by some other insect; they never touch or harm a sound grape. A great many people blame the bees for injuring grapes, but he thinks it is the wasp that does the mischief. As regards the destruction of apples, he has had as high as fifty swarms in his orchard at a time, and never noticed any destruction or diminution in his crop. His clover crop was greatly benefitted by the presence of bees.

D. H. Lintner had often heard that bees would destroy grapes, but after experimenting, he found that it was not so. He put several bunches of grapes, dipped in sugar syrup, in front of the hive; when he took the grapes away, after the bees had eaten all the syrup off, they were as sound as when he put them there.

A. H. Shock said that the people in his neighborhood were very much opposed to the Italian bee, as they believed it stung their grapes.

Peter S. Reist believed the bees were a great benefit to flowers, as they carried the pollen of one to that of another, thus propagating, as it were, the flowers.

The fourth question,—"How long can brood remain exposed without being covered by the bees, and still be used for queen raising?" was then introduced.

Leonard Fleckenstein opened the discussion on this subject, and said that he had a piece of comb lying exposed for twenty-four hours, in a cool chilly air, from which he raised a prolific queen. He did not know whether the egg was used or not.

J. F. Hershey said that where there are eggs in the comb, they can be of use for raising for a long time. Combs with eggs can be shipped by mail, and kept for five or six days, and then have a young queen hatched out of them. When the brood is over four days old, they cannot raise a queen. Some have been raised in this time, but they are not perfect, and, as a matter of course, are entirely worthless.

The question, "What is the reason that a queen's sting is curved and a worker's sting is straight, and yet hatched from the same kind of an egg?" was proposed by S. G. Garber, who wanted a little information on the subject.

A. B. Herr thought it was the nature of the bee, or the formation of the cell.

J. F. Hershey believed nature had made it so, in order to attack its rivals.

"Why is a fertile worker produced, and how?" was the next question brought before the meeting.

D. H. Lintner supposed it was produced in order to take the place of a queen. It is not quite as large as a queen, and looks like an ordinary worker bee. It lays eggs the same as a queen, sometimes two and three in a cell, but they never amount to anything. He could not tell how the fertile worker was formed. They would not hatch, and when a queen is put in with them, they will kill it. The only remedy for this is to transfer the worker to another hive.

J. F. Hershey said that the fertile worker never raises any worker bees; they can raise nothing but drones, and these are perfectly worthless.

Leonard Fleckenstein compared the bee to a human being, and said it did the best it could.

"Which is the better plan, natural or artificial swarming?" was the last question brought before the meeting.

J. F. Hershey preferred the artificial way of swarming, on account of a great deal of time being saved. When a natural swarm leaves the hive, it takes seventeen days before the young queen is in good condition, and the hive is got in working order. In an artificial swarm, all this time can be saved by placing a queen in the hive at once. In the artificial way, you can swarm three times when you can only swarm twice in the natural way. Before swarming in the artificial way, the bees should have as much honey in the hive as they have when they go into winter quarters.

Leonard Fleckenstein and Jacob Kepperling, also favored artificial swarming, and cited several experiments which they

had undertaken. They believed a week or ten days were gained by artificial swarming.

Peter S. Reist was of the opinion that natural swarming was the best, that is, if you have a prolific queen in the right place. He had a great many bees, but if it were not for artificial swarming, he would not have near so many. Artificial swarming should be thoroughly understood before it is attempted; in this way, thousands of bees have been wantonly destroyed.

A motion was made and carried that a committee of three be appointed by the chair to prepare practical questions for discussion at the next meeting, which is to take place on the second Monday in May, at the same place. The chair then appointed J. F. Hershey, A. B. Herr, and Leonard Fleckenstein, as the committee. There being no further business, the society adjourned.

ADAM B. HERR, Sec'y.

For the American Bee Journal.

How to Winter.

I should like to suggest to progressive apiarists. Much has been said, and many have missed the mark in what they have said on this subject. Make a room with double walls, nearly frost proof. Near it build another small house for heating or cooling the bee-house. It should be tight with a large heating stove and pair of blacksmith's bellows, with a pipe running into the bottom of the bee-house, driven by a small wind-mill. With this you can furnish them with a good current of warm air, or if too warm, with cool air from ice, supplied by the wind mill. With this you can regulate the atmosphere to suit, and the bees will not have to live all winter in the same foul air, and get the dysentery in the spring.

Don't make a green-house out of your heating house, as that may set the queen to laying. As you pump in the air, fragrant with blossoms, she may think it spring, and the bees might swarm as soon as they are put out, and be lost, as there would be no honey for them to subsist on.

J. M. BENNETT.

Bremer County, Iowa.

Honey Markets.

CHICAGO. — Choice white comb honey, 18@25c. Extracted, choice white, 8@13c.

CINCINNATI. — Quotations by C. F. Muth. Comb honey, in small boxes, 25@30c. Extracted —1 lb. jars, in shipping order, per doz., $3.50; per gross, $39.00. 2 lb. jars, per doz., $6.50; per gross, $72.00.

ST. LOUIS. — Quotations by W. G. Smith. Comb, 20@25c. Extracted, 10@12½c. Strained, 7@9c.

SAN FRANCISCO.—Quotations by Stearns & Smith. White, in frames, 20@22½c. Dark, 10@12c. Strained, 7@11c. Beeswax, 27@30c.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, JUNE, 1876. No. 6.

Captain Hetherington's Address.

In common with the apiarian readers of the A. B. J. generally, we read the above-mentioned address in the April number with much interest. Having had the pleasure of meeting the "gallant Capting" on two occasions at "Bee Conventions," when we talked apiculture until the "wee sma' hours ayont the twal," and enjoyed some good social and public opportunities in the company of our fellow bee-keepers, some curiosity was aroused to see how our genial friend would acquit himself in the Presidential chair. We had high expectations, and they have not been disappointed.

We thank the Captain in the name of the Canadian bee-keeping fraternity, (perhaps it would be presumptuous to speak in the name of the whole Continent of America) for his eloquent tribute to the memory of the late Moses Quinby. He has paid a high and glowing tribute at once to his talents and virtues. It was well deserved. While we need not say in despair, "we ne'er shall look upon his like again," it is no libel on humanity to say that such men are, "like angels' visits, few and far between." We warmly second the suggestion as to the compilation and publication of a memoir and remains. Perhaps the MSS. of "Advanced Bee-Culture" is in such shape that it can be got ready for the press in a style that would do the author no discredit. If so we hope it may see the light.

In view of Mr. Quinby's great, and to a large extent, disinterested labors—and the felt indebtedness of bee-keepers to him—we submit whether it does not behoove us to testify our gratitude and respect in some substantial and enduring form. Would not a monument to his memory, erected by the bee-keepers of America, be a graceful expression? If every bee-keeper would contribute but a dollar, it would suffice to rear such a monument as would grace the humble cemetery where his remains have found a resting-place, and bear witness to the bereaved family, and public generally, of our high appreciation of his usefulness and worth. We make this as a proposal to our brother and sister apiarists, and hope it may be entertained and carried into effect. If resolved on, we will do our part in seeing that Canada gives its quota toward so deserving an object.

Anything said by Captain Hetherington on practical bee-keeping deserves respectful consideration, but we think with the editor of the A. B. J., that he has wandered a little from the record in his criticisms on the "bee journals." We know that it was our aim while editing the A. B. J., to be impartial and truthful in all our representations of bee-keeping. We own to a feeling of enthusiasm in regard to apiculture, but still think it never tempted us into the use of *coleur de rose* when speaking of the business. On the one hand, it was necessary in some cases to defend bee-keeping from the uncalled-for and ungenerous flings of journalists who were constantly insinuating that "bee-men were sharpers, and that apiculture was a delusion and a snare." On the other hand, it was needful to tone down the exaggerated anticipations of sanguine beginners. Back numbers and volumes of the A. B. J. furnish proof that both duties were in some degree faithfully performed.

Although the captain frankly owns that he began bee-keeping under a delusion, we are inclined to think he has done, on the whole, pretty well at it, and we should have been glad if he had given a fuller account of his personal experience. This is necessary, "that the subject be fairly presented." The inference from

what is stated would be that it is a delusion to go into bee-keeping as a remunerative industry, though it is a fine calling for oxygenating the blood, giving a good appetite, and keeping off dyspepsia, with its attendant "blues." If it is all this, and if, besides, it will yield a comfortable subsistence, why, then, it is by no means a bad calling. We don't suppose that the Captain has made a fortune out of it any more than the lamented Quinby; but if he has found a competence in it, as we think he has, why then, it is just as well to say so much in its praise.

Too much stress cannot be laid on the advice not to go into bee-keeping unless you are "adapted to it." A man wants "a call to bee-keeping," if he is to succeed at it; just as truly as a man wants "a call to the ministry," in order to be effective in that vocation.

There is an idea abroad just now, that, whereas at first, bee-men eulogized the business in order to get buyers for patent hives and a legion of useless "fixins"; now there is a fear entertained lest too many should go into it and so the business be "overdone." We don't imagine that Captain Hetherington is influenced by any such motive, because he knows quite well that successful bee-keeping, on a large scale, requires peculiar qualifications such as few persons are likely to develop. For ourselves, we play second fiddle to no one, as an amateur bee-keeper, but we know as well as any one can tell us that we are not "adapted" to bee-keeping as a calling. We can do better at preaching and editing, although neither of these can be called a money-making business. For shallow purses, threadbare coats, patched clothing, and "shocking bad hats," commend us to the ministerial and editorial fraternities. But if any one undertakes to run down either of these professions, we are prepared to go for him with a very sharp-pointed pen, dipped in ink with rather more than the usual proportion of gall in it. W. F. C.

☞ On the 16th C. O. Perrine went to the South on a tour of inspection. He intends visiting *many* of the bee-keepers in Louisiana, Florida, Tennessee, Kentucky and Ohio, before returning.

☞ At a recent meeting of a county bee-keepers' society, the secretary thereof made the charge that he had purchased of a well-known dealer, for pure Italian, a queen which proved to be a very poor hybrid, if not a pure black. This matter occupies a large portion of space in the report of proceedings of the society, published in the local paper. The accused party asks that we publish the report in full, and sends us a full reply. This would occupy several pages, and as it comes at a late hour, when the pages are mostly made up for this number, we publish neither charge nor reply, not having room therefor.

Even had we the room, we doubt the wisdom of the publication. The readers of the JOURNAL are not interested in the details of a personal quarrel, and if we begin it, the wrangle may run through several numbers. The AMERICAN BEE JOURNAL has always deservedly borne the reputation of being fair and impartial, and the very freedom of its columns has perhaps been, more than anything else the subject of criticism. A highly esteemed correspondent says "I have always liked the JOURNAL, though I think too many unkind flings are admitted. They are mischievous and do not aid our art." We believe this is a fair expression of the opinion of others.

In the present instance, a man with an enviable reputation as an upright dealer is said to have sold to another dealer, as pure, a queen nearly, if not quite, black. We certainly cannot believe he would be so idiotic as to commit so bare-faced a fraud, even if he had no principle whatever, for the loss of reputation thereby would be more than the price of many queens, and a very few such transactions would entirely stop his gains from sales.

We can readily believe that a man may buy a pure queen and afterward suppose himself to be imposed upon. A few years ago we ordered an Italian queen of a man whom we believed to be honest. To make sure of her kindly reception we put her in a small colony that we had purposely kept queenless for a week or more, having cut out all queen cells so we might feel sure, not only that they had no queen, but that they had no means of raising

one. Within three or four weeks we examined the maturing brood and *it was black!* As we had taken the necessary precautions, were we not justified in asking redress? But on examination we found that the queen had changed to a very dark color and her wings which had been clipped had grown out to full length! Of course this queen was in the hive when the Italian was introduced and had probably been coaxed into the hive by the bees when out on her bridal excursion from a neighboring hive.

We have just been trying one of Novice's extractors, that is, running it without any thing in it, and it certainly runs *very* easily. It seems as if it would not be hard to get up speed enough to throw out honey, brood, and perhaps, bee-bread! After being accustomed to one without gearing, we feel quite sure we should, with the Novice machine, throw out some brood before getting the hang of it. The gearing is admirably arranged so that the crank lifts off, being in one solid piece with the larger cog wheel. This makes it very easy to clean or oil the cogs. There is no wood about it, and the whole thing is so light that it can easily be carried with one hand. It appears to us, it would be troublesome to clean, as we see no way of taking the frame work out of the can without taking out four screws and these would soon be getting rusty or loose. Only Novice would have thought of the night-cap arrangement of cotton cloth for covering it.

We have before us the new work of Prof. A. J. Cook, entitled "Manual of the Apiary," containing 60 pages of useful matter, with 20 illustrations. As to the mechanical execution of the work, it has the appearance of a government pamphlet, being a little more than 6x9 inches, and contains much waste space. A smaller page and thicker book would have been far more convenient. Of course at so low a price it has a paper cover. The type is clear. Many of the cuts are neither beautiful nor true. The beginner, who has not one of the larger works, will obtain in this, at a trifling expense, the pith of what he wants.

Artificial Comb-Foundation.

The *situation* at present with regard to COMB-FOUNDATION is about as follows:

"Novice" comes into the field again, and says in May *Gleanings:*

"I am now having another machine made, as Mr. Perrine makes no progress as yet towards filling orders, even at his prices; ours will be 75 cents and $1.00 as before, but I beg no one will send in money until we announce being ready to fill orders. If, after the machine is done, our laws will sustain Mr. Perrine, you and I will have to submit until his patent runs out; we can do it pleasantly if obliged to, can we not?"

Mr. A. J. King announces in the May *B. K. Magazine*, that he will furnish machines for $100 each. He says:

"A considerable quantity of cheap materials, perfectly harmless, and acceptable to the bees, is mixed with the wax, and to a person owning a machine the complete foundation-combs ought not to cost him above 40 cents per lb. The materials added to the bees-wax give it a stiffness and tenacity very desirable in the breeding department of the hive, and this is the only place where artificial combs (except thin strips for guides) should ever be used."

He furthermore offers to give his patent for the benefit of the bee-keeping public, providing Mr. Perrine will do the same.

If anything but *pure bees wax* is used in the production of foundations, we are strongly of the opinion that the whole thing will fall into deserved disrepute, and damage the sale of comb honey.

Meantime, Mr. Perrine has not receded from his position, that no one else has a right to make the foundations. If this claim is sustained, then the only question will be as to the profit of furnishing the bees with foundations at Mr. Perrine's prices; if the claim does not hold, then the question will be whether to buy a machine at $100 or the product at 75 cents per lb. If it is true that the comb-foundations (if they are to be much used, we hope a shorter name will be invented) should only be used in the breeding department and they can be made for 40 cents per lb; then it follows that only those who want about 300 lbs will find it profitable to pay $100 for a machine if they can buy the foundations from Novice at 75 cents per lb.

Some English bee-keepers use the sheets of wax without any cell impressions on them and seem to think them about as good. We have used these sheets and any one can make them, as we think there is no patent on them. Take any vessel that is most convenient and melt beeswax in it, putting in *first*, water enough to make the vessel tolerably full after the beeswax is in. Of course, it would do just as well to have all bees wax and no water, but a very little wax can be used if water is added. Dip into this a piece of common window glass, and after taking it out of the wax, dip it into a vessel of cold water to cool it and you will have a thin sheet of wax on each side of the glass. If wanted thicker, dip again in the wax. We think, however, we should much prefer the pressed sheets.

To fasten in the frame, a little melted wax or rosin may be dropped on as a kind of solder, or a hot iron may be run along the edge of the wax where it touches the frame.

If much is to be fastened into frames, the plan given by Novice is good. Make a board just large enough to fit easily into the frame, and nail stops around it so that the foundations will be just at the right place to be fastened into the frame.

If the foundations cannot be used for surplus honey, then it seems to us, their chief value will be gone.

W. W. Lynch asks, *how to preserve combs, not in use from the moth.* They may be put in a closet or box which closes so tight that no moth can find an entrance. They may be hung in an attic allowing a space of one or two inches between the combs. We have kept them standing all the year in a hive out doors just as the frames would be hung for the bees to occupy; but this might not be so well in all localities.

A. G. Hill did not say, in his article on Artificial Swarms, whether he used woolen or cotton cloth for curtains. If cotton, would it not be a good plan to make them double with a thickness of newspaper between? C. T. SMITH.

I use one thickness of woolen or two of cotton cloth. The paper may be an improvement, but I have never tried it.

A. G. HILL.

Mr. F. W. Chapman has sent one of his extractors to this office, and the cut on the advertising pages is a very exact representation, except that the corner posts of the machine are neater in appearance than those in the cut. The wooden frame work about the can adds unnecessarily to the weight, but it has the advantage of being always mounted, ready for work. For every revolution made by the crank the comb makes four revolutions.

NOT HAY, BUT HONEY.—The first line on page 137 of May number, R. Miller's article on Melilot Clover, should read: "I got 6,000 pounds of honey," not hay. It will be well to make that correction on your copies, for it is an important change of words.

☞The first article in this number from the pen of the Rev. W. F. Clarke, was intended for the May number, but was received too late.

MR. J. S. COE writes us that he proposes to have the ground about his house apiary, planted with honey-producing plants; and asks that bee-keepers send by mail specimens of the honey-producing plants of their various localities, directed "J. S. Coe, House Apiary, Exhibition Grounds, Philadelphia, Pa."

On page 117 of last issue, D. H. Ogden's address is wrong. It should be "Wooster, Wayne County, Ohio." Those who have written him to Mass., will do well to write to the postmaster and order the letters forwarded to Wooster, Ohio.

WE had a pleasant call last month from the Rev. A. Salisbury, of Camargo, Ills., who is extensively engaged in aparian pursuits.

ON April 25th, G. W. Maryatt, of Milton, Wis., lost his residence by fire. In his cellar were 40 swarms of bees, and all were consumed.

MR. C. C. VAUGHAN, of Columbia, Tenn., has been added to the firm of Staples & Andrews, of the Columbia Apiary, in that place. One month ago they had 175 full colonies, and were *then* having natural swarms.

FRIEND NEWMAN.—Believing that I am as successful as anybody in the introduction and sale of machine-extracted honey, and as the ready sale of the article is just as important as the production of it, allow me to add to the exhibition in your office, two of my cases of honey jars. They are the style in which I have been selling honey to the trade for years, and it is the best merchantable shape in which I have seen honey put up, so far.

I object to putting a piece of comb into a jar of "pure machine-extracted honey," because it is, in my estimation, only pleasing to the eye of the ignorant, and because it can only be calculated to convince the purchaser that the article is *pure* honey. Every honey producer knows that machine-extracted honey is the *only* pure honey possible, while we have wax and other little impurities with the choicest kind of comb honey. Choice machine-extracted honey will recommend itself; and a piece of comb in a jar is just as insufficient to convince a sensible consummer of the purity as the crumbling of dry comb on top of a jar. Besides, after granulation has taken place, a jar of machine-extracted honey, with a piece of comb in it, is unsightly and unsalable.

We should have, as near as possible, a uniform shape in which to offer our honey to the trade. To our neighbors we may sell it in any shape to suit them, of course. But we are in the habit of seeing canned peaches put up in tin cans, and other fruits in some certain packages. Similar it should be with honey. Round jars can be furnished for about $1.00 less per gross than square jars. But I prefer the latter because everybody uses round jars for almost everything, and because square jars have a neater appearance and pack better.

Permit me also to place on your table one of my knives. There are no more practical uncapping knives made, and they are *cheap*. CHAS. F. MUTH.

We have taken pleasure in examining these articles. The one pound *honey jars* look very much like the ordinary square pickle bottles. On one side is blown in the glass the figure of an old-fashioned straw hive or skep, and the words "1 POUND PURE HONEY." The remaining three sides are plain to admit such labels as the producer may wish to put on them. We do not remember before to have seen a label of directions like the one Mr. Muth puts on the jars of honey he sells. Something of the kind should be on every jar of honey sold. The label reads as follows:

"All pure honey will crystalize, [of course he means granulate—ED.] especially if exposed to the cold. Putting the jar in hot water, will bring the candied honey to its fluid state without the least injury to the quality. In order to save the glass the corks should be loosened and the water heated gradually."

In this connection we also give the printed instructions Mr. C. O. Perrine sends out with his goods:

"To restore candied honey to its original liquid condition it must be heated.

"Nearly all pure honey will form into granules in cold climates in time. Some honey so forms sooner than others, and in some seasons honey will so form much more than in others, owing to atmospheric conditions aside from absence of heat.

"When I have any jars of candied honey I take the covers off, to guard against bursting with confined heat, and place them over a steaming kettle of water, setting them on strips of wood and covering them over with a cloth, so as to keep the heat in. If comb honey, care should be taken that they do not heat too quick or get too warm, as a very little excess of heat above that required to melt the honey, will melt the comb (wax) too, as well as the liquid honey about the comb, which, when melted, will float on the honey.

"If the jars be set in an oven the same result will follow, placing strips of wood under them to keep the heat from breaking the glass.

"To those having them to sell, I will say if they will warm them before they are candied through, a very little heat will do."

Mr. Muth's 50-cent uncapping knife is a rough looking affair, but the blade being of good steel it will doubtless do good work. Some would rather give $1.00 for a nicely finished knife, while others would rather save 50 cents and have something less tasteful in appearance.

The bee veil of Mr. Muth is made of thin, white material, all but the part before the face which is black and very fine, so as not to impede the vision. It comes down to the waist at front and back, making a very thorough protection; in fact too much of a protection for an old bee-keeper, who will want a veil ready to be thrown down quickly over the face as occasion may require. For the timid who want to feel sure that no bee can get near them, this veil is just the thing.

☞ Don't write anything on the *face* of a postal card but the address. We very often have to pay 5 cents for a postal card sent us because the sender has put the *date* on the face of it instead of the other side. Let all *remember* this.

☞ In a private letter, one of our most prominent bee-keepers remarks that our April number was "the best bee-paper" he "ever saw, Wagner's administration *not* excepted." Our determination is that each future number shall be "like unto it."

Secure a Choice Queen.

We now renew our offer to send a choice tested Italian queen as a premium, to any one who will send us *five* subscribers to the AMERICAN BEE JOURNAL with $10,00. This premium, which gives a $5.00 queen for five subscribers, will pay any one for taking some trouble to extend the circulation of the AMERICAN BEE JOURNAL. Premium queens will in every case be warranted.

Barnes' Foot-Power Saws for Hive Making.

A. I. Root, editor of *Gleanings in Bee Culture*, Medina, Ohio, says, "This machine is one of the brightest illustrations of genuine Yankee ingenuity it has ever been our fortune to meet, and the simplicity and fewness of its parts are really surprising. With the new and novel foot power, the only wheel there is about the machine, except the saw, can be instantly set humming like a top, and one of the prettiest little saws can be attached to it in little less than a second of time, yet the whole is so extremely simple that even a child can do nice true work at once. At our first attempt we sawed one foot of ⅞ in. pine in six seconds. The facilities this machine offers for rapid work, and the way in which labor is saved in its construction, are to us simply marvelous. We thought we did a bright thing when we devised our new extractor gearing, but we will yield the palm to the Barnes Saws." See advertisement.

HIVES.—We have made arrangements so that we can supply Hives of any kind, and in any quantity, on the shortest notice—either complete or ready to nail together.

WE will give $2.00 for the following numbers of THE AMERICAN BEE JOURNAL: No. 1 of Vol. 2; Nos. 7, 8, 9 and 11 of Vol. 3. Any one having them to spare will confer a favor by sending them to this office, at once.

COMB FOUNDATION for sale at this office, as well as hives, extractors, and other apiarian supplies, at the regular market prices.

I. N. BLANCHARD has removed from Wisconsin to Ottawa Co., Kansas, and intends to make a specialty of honey producing.

F. W. CHAPMAN, of Morrison, Ill., has one of his Extractors in A 27, the northwest corner of the agricultural building of the Centennial Exhibition at Philadelphia.

☞ The Rev. J. E. Rockwood, of Logan, Iowa, writes us that the *Washington Press* item published in the May number is a *canard*. He has interviewed the Rev. H. H. Kellogg, and learned that he bought the farm three or four years ago—and that the price was *not* $8,000—and that he has had no communication with Mrs. T. this winter.

OUR ALBUM.—Quite a number have sent on their photographs during the past month, and we have a large Album started with them. Let the others be sent in, that the collection may be large and interesting.

☞ Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

☞ We have a new lot of fresh melilot clover seed, that we can supply at 25 cents per lb. Postage 16 cents per lb. extra, if sent by mail.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send postpaid a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

WHEN your time runs out, if you do not wish to have The AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

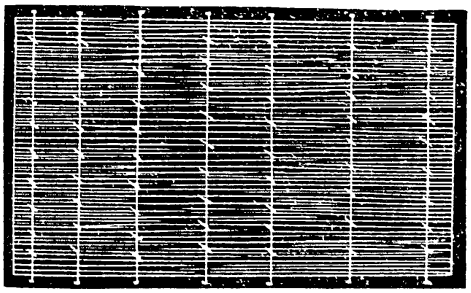
THE Los Angeles (Cal.) HERALD devotes a column to the interests of apiculture, styling it *Bee-Keeper's Column*. It is edited by N. Levering. May it do much good.

Correspondence.

For the American Bee Journal.

My Straw Cover.

Three years ago I succeeded in constructing a fine straw cover for my hives, which answers well for all purposes, and gives better satisfaction than any other I have seen. They are made as follows: Take strips, 1½ inches wide, and make a frame to fit the size of the hive; in the side pieces I make ¼ inch holes, 3 inches apart, commencing ½ inch from the ends; from the hole to the inside, I grub out a little, to sink the canes I stretch across this frame. Now, fill up finally with clean straw, and draw the cane over the upper side, which I afterwards bind off with waxed twine. This cover is as smooth and solid as a honey board, and I put it on early enough to allow the bees to fasten it with propolis. The following illustration will show what I mean. This



cover may cost a little more than a mat, but will hold out any wooden honey board, and pays four times its cost every year, for bees breed much faster under it, in spring, and winter better, because they keep dry and warm, without any current of air through the hive. I have over fifty of these covers in use now, and cannot say too much in their praise.

Jefferson, Wis. W. WOLFF.

For the American Bee Journal.

Success and Failure.

Having just looked over the April number of the JOURNAL, I see friend Heddon trying to show that there is no profit in bee culture, especially with the extractor; and friend Bingham seems to be close upon his track. Burch agrees with him so far as comb-honey in glass boxes are concerned. I differ with them both, so far as the comb foundations are concerned, and agree with Bingham that the bees should build their own foundations if to be eaten. I do not want the comb foundations on my stomach, nor on that of my customers. My experience, generally, accords with that of friend Dadant, page 107.

The above four men, all my friends, are all honest, and it is not my purpose to dispute what they say, but merely to give my own experience.

I have never had anything for sale but as advertised, "Pure Italian queens and full colonies," nor have I been a purchaser of hives and fixtures, bee-feeders, etc. Here I would state that I forgot to say at the start, I consider myself successful, and it is my aim to show how I succeeded, even in a poor location as this is.

I commenced with the Langstroth hive, trading bees for hives, thus making it a rule to go slow and make my bees pay their own way as they went,—thus, "Pay as you go." I also improved my bees until I had, or thought I had, the best in the U. S., but never have depended upon bees a single season for a living. I carry on the saddle and harness business, and my apiary is right back of my shop, so I can just step out of the back door and walk in the apiary any time. It was bad health and want of out-door exercise that caused me to start an apiary. I will here say I started it with two *gums*, before I had ever heard of a book being written on bees. I started in 1857. I well knew, when I started it, if the bee business was a sure business, it could not be so in such a locality as this, where we only have about one good season in every five. My rule has been never to keep over 80 stands, and to reduce them by sale every spring to about 36 or 40, my wintering being a success every winter. No disease ever known in my apiary.

I have generally sold comb-honey at 30 and 35 cents, until I, like Dadant, created a demand for the extracted. I can now sell three pounds of extracted to one of comb, even at the same price, 20 or 25 cents, never less than 20 yet. My market is at home. Before the Extractor, I had to beg a market in the cities. I sent C. O. Perrine two crates of comb-honey, in caps, some years ago, and will here state, to his credit, he *dealt fairly* with me.

If novices with the Extractor would wait until the combs are fully sealed over, they would get an article of thick, rich honey, cheap at 25 cents any where. This is the article I give my customers, and it has at last made the sale of my cap honey dull.

On account of the sale of bees I have had every spring, I have never had an opportunity to give my bees a fair run for honey gathering, as yet. They being reduced to about 40 every spring, had to be increased to 80, and raise about 200, or more, queens besides, and to do this in this locality, I have never got over about (2,000) two thousand pounds besides.

The great damage to the bee business is so many novices pitching in with a patent hive, fixtures, farm-rights, etc., expecting to make money on a pack of fools who will buy their chattels. The

best way to deal with such agents is to show them the gate out of the yard, and that quickly, too. The best hive that ever was made, or can be made, is the plainest frame hive a man can make at a low cost. I prefer the Langstroth, as it is the plainest and easiest to use I know of.

It would take up too much space to go into detail of my management of bees: but I will say, anyone, managing skilfully and economically, as I have done, can make bees pay. Pitching in at the start, with capital, buying farm-rights, and every useless appendage for bee culture, is a sure failure. Also following such leaders as N. C. Mitchell is a flat failure. R. M. ARGO.

Lowell, Ky., April 8, 1876.

P. S. Will friend Bingham say that the business of selling queens and full colonies is not honest if the dealer is honest and deals honestly with all his customers? I know all are not so.

For the American Bee Journal.

Introduction or Early History of Bees and Honey.

The Natural History of the honey-bee has been the marvel of all ages from the time of Adam the greatest naturalist the world ever produced, who well knew her history when he named the bee "Deborah," in the Hebrew, which means "she that speaks," and the bees speech is both as sweet and as wise as that of her namesake Deborah, whose wondrous song of victory is written in the Book of Judges. Adam knew that the bee was able to speak and teach proud man, with all his boasted intellect, many a wise saying if he was only willing to learn at her school, and so he gave her that name. This was 4004, B. C.

The history of bees is found written in hieroglyphics in the Pyramids of Egypt, and on ancient tombs, long before writing was discovered, and this proves that the natural history and management of bees occupied the attention of man at the earliest period of which we have any record. Surrounded by a boundless variety of living creatures, he would naturally be led to notice their habits and economy; and no part of the world of insects, would be more likely to engage his consideration than the honey-bee. Honey would in all probability, constitute one of his earliest luxuries; and, as he advanced in civilization, he would, as a matter of course, avail himself of the industry of its collectors, by bringing them as much as possible within his reach; and by this means he would take an important step towards an acquaintance with entomology. But the progress made by our earliest progenitors, in this or any other science, is involved in the obscurity and uncertainty appertaining to the infancy of society and the difficulty of writing its history in hieroglyphics.

The first indication of attention to the bee's natural history is contained in the Old Testament, where it is mentioned in connection with honey and wax in no less than twenty of the books. In Genesis 43; 11, the patriarch Jacob, in giving directions to his Sons on going down into Egypt a second time, tells them to "take of the best fruits of the land," with them —literally that which was praised the most or "the song of the land" and among others, he names "a little honey." The things enumerated, as we are informed, grew well during a drought; and as a famine now prevailed, would be more highly appreciated in Egypt. Besides we are led to the belief that honey was an article of commerce previous to this time— Genesis 37; 25, and inferences drawn from Homer and Herodotus at a later date. The whole of the twenty Books conclusively prove, the care that was taken of the bees, and how highly their produce was appreciated; and in Solomon's Song 4; 11, Christ's love for the Church is beautifully expressed; "Thy lips O *my* spouse, drop as the honeycomb; honey and milk *are* under thy tongue; and the smell of thy garments *is* like the smell of Lebanon."

The records of its first progression are however entirely lost, and no regular history of this science exists prior to the days of Aristotle, 330 years before Christ; who under the auspices and through the munificence of his pupil Alexander the Great, was called to prosecute with the greatest advantage, for the time in which he lived, his experiments and inquiries into every department of natural history. Alexander felt so strong a desire to promote this object, that he placed at the disposal of Aristotle a very large sum of money, and in his Asiatic expedition employed above a thousand persons in collecting and transmitting to him specimens from every part of the animal kingdom. Aristotle is therefore to be regarded as having laid the first foundation of our knowledge of that kingdom. He must likewise have derived great advantages from the discoveries and observations of preceding writers, to whose works he would probably have easy access. No individual naturalist could without such assistance, have produced so valuable and extensive a work on natural science as that which Aristotle has bequeathed to posterity. And though the opinions of himself and his contemporaries have been transmitted to us in an imperfect manner, and abound in errors, still he and his illustrous pupil Theophrastus, who succeeded him in the Lyceum, may be regarded as the only philosophical naturalists of antiquity, whose labors and discoveries present us with any portion of satisfactory knowledge.

Prior to their time we read of Aristomachus of Soli in Cilicia, who spent fifty eight years in the contemplation of bees; and of Philiscus the Thasian who spent so great portion of his time in the woods, in pursuit of the same object, as to have acquired the name of Agrius. Both of these great bee-masters left behind them in writing, the results of their experiments and observations; but the original works have been long buried in oblivion. However small the contribution of knowledge which we have derived from these ancient worthies, they must have greatly aided the progress of their favorite science, and are at all events evidences of the zeal with which the study of bees was prosecuted in their day.

About three hundred years after the time at which Aristotle wrote, his observations on the honey-bee were "embellished, and invested with a species of divinity, by the matchless pen of Virgil," in his fourth Georgic, 35 B. C; and it excites feelings of regret, that poetry, which for its beauty and elegance is so universally admired, should be the vehicle of opinions that are founded in error.

WM. CARR.

Newton Heath Apiary, near Manchester, England.

For the American Bee Journal.

Disease of the Bee.

I am very much interested in the AMERICAN BEE JOURNAL, and, in fact, anything pertaining to the bee. I wish to state my experience and my belief as to what causes the bee disease. I think that cold is the cause. I have not seen anything of it this winter, because it has been generally warm. But years before, I have noticed that those in coldest parts of my cellar, where the thermometer would mark 28° or 30°, would be sure to have the disease; while those sitting in the center, and directly under my kitchen, would be dry and entirely free from it. *I* would advise *all* to throw away straw mats, bed quilts, comforters, and every thing of that sort, for I have tried them, and find an inch board better than all. Just loosen the board from the frames when you set the bees in the cellar, and that is ventilation enough, if your cellar is at the right temperature, from 44° or 54°.

I think bee-keepers go too much on foolish patents. Such things all cost money, besides being in the way a good part of the time. I use an oyster can, opened on the side, and find it just as good as any patent feeder I ever used. I put pine splints in for floats to keep the bees out of the honey or syrup, and they will take out every particle of it.

One of my neighbors was troubled with bee disease, but it was as cold as 30° in his cellar. *Cold causes the disease.* He bought his bees of me, and they were in as good condition as my own when he put them in his cellar. I set my bees all out by the 10th of March, and they had a good fly; they are in splendid condition; they cover from six to twelve frames.

From 100 swarms put in the cellar last fall, I found four good swarms queenless, (they were very late queens, and had only *just* commenced laying when I put them in) and one nucleus, smothered through my own carelessness.

My bees are all in the cellar at the present time of writing, and the weather bids fair for them to remain there two or three weeks yet. MRS. D. M. HALL.

Rock Co., Wis., April 2d, 1876.

For the American Bee Journal.

Salicylic Acid for the Cure of Foul Brood.

Since the publication of my note on Salicylic acid, as a cure for foul brood, in the January number of the JOURNAL, I have received a report of the meeting of the National Bee-keepers' Society of Germany, held at Strasburg, which contains a very long report of Mr. Hilbert on the above subject. Mr. H. stands high in the estimation of German apiarists, and as his report gives a better and fuller account of the manner of using the acid, I have condensed his report, and give the same for the benefit of those that wish to try the remedy. Mr. H. has cured twenty-five stands by this method, and his patron, the Count Kolourat, known through his importation and trial of Cyprian and Egyptian bees, has in like manner cured sixty-five stands. The directions of Mr. H. are as follows:

Dissolve the crystalized acid in eight times its weight of alcohol. Four times the amount would do to dissolve the acid, but then it would flake when mixed with water. More than eight times as much alcohol would be injurious to the unsealed brood. This solution is called the alcoholic solution.

For the disinfection of combs, frames, and hives, use but thirty-two drops of the alcoholic solution for *one ounce* of water; mix well by shaking. This water should not be too warm, nor less than 60 degrees Fahrenheit, else the solution will flake.

For the disinfection of hives and comb, use an atomizer. Keep the brood warm; disinfect the hive first, and hang in the brood as soon as disinfected. Reduce the hive to the smallest limits; remove surplus honey after disinfecting it with the atomizer. Before doing this, however, all sealed foul broody cells must first be treated with a mixture of *equal parts* of the alcoholic solution and warm water.

For this, use a piece of wood of the shape and size of a match. Dip this in the last-mentioned solution, and pierce the foul broody cell to its bottom, immersing the piece of wood anew for each cell. For the unsealed brood, sprinkling with the atomizer and the weaker solution is sufficient. Every other evening feed about one-third pint of honey, to which are added from 30 to 50 drops of the alcoholic solution, according to size of hive.

The sprinkling should take place once a week, if not oftener. Mr. H.'s hives required from six to eight applications before he considered them cured. It is bad policy to take away the queen or to cage her, as it would weaken the swarm too much. In subsequent examinations one will find dead larvæ, though they may not exhibit the signs of foul brood. They are evidences of insufficient or faulty feeding and nursing. Mr. H. thinks that the constant exposure to the foul vapors of the hive proves deleterious to the queen and the bees generally. The young bees especially that act as nurses and at the same time remove the decaying matter, communicate the poison to the brood they feed. And as the foul brood fungus may perhaps generate and increase within the body of the living bee, as the trichina does in man, it is well to regenerate the brood by the addition of young bees from healthy hives. When all the above measures have been conscientiously applied, it nevertheless happens that foul brood will continue to appear. In such cases it may safely be presumed that the ovaries of the queen have become infected. In twenty-five hives treated by Mr. Hilbert, he found three such queens. Instead, therefore, of destroying all queens, it might be well to try them in nuclei hives with clean combs and healthy bees. Mr. H. summarizes the matter in the following words: "The absolute cure of foul brood may be effected by a proper application of salicylic acid, by the addition of healthy nurse bees, and by a change of queens, if necessary."

Mr. H. estimates one ounce of the acid sufficient to cure from five to seven stands. Care must be taken to sprinkle *all* parts.

Respectfully, JOHN P. BRUCK.

Los Angeles, Cal., April 7th, 1876.

For the American Bee Journal.

Extracted Honey.

In reference to extracted honey and the discussion thereon, I wish to bring forward a little of Mr. Heddon's past experience, in proof of my arguments.

The reader will remember that we hold that extracted honey does sell and does pay, and that bee-culture also pays, while Mr. Heddon denies all this.

Since Mr. H. seems to doubt our own statements in proof of this, we will give him some of his own statements.

We have gathered Mr. H.'s past writings, and find that his honey crops were as follows:

Year.	Stocks in Spring.	lbs. Honey.	Stocks in Fall.
(1) 1870	6	523	22
(2) 1872	14	3000	not said.
(3) 1873	16	4200	35
(4) 1874	48	8500	55

Until 1874, from his own reports, (5) Mr. H. had never sold his honey less than 28 to 30 cts. In *Gleanings*, Sept., 1874, (6) he said: "As our honey sells at good prices, we have decided to feed sugar syrup this fall for wintering."

November, 1874, (4) he said: "Started a honey house and met with such good success that we shall handle 20,000 lbs. before next season. Bought the crop of several bee-keepers," etc., etc.

In August, 1875, (7) his opinion was that he could expect yet 2,000 lbs. of extracted honey, or else 150 lbs. comb, meaning that he could just as easily get 2,000 lbs. extracted, as 150 lbs. comb honey. This is entirely in contradiction with his opinion on the matter in A. B. J. for March, 1876, where he says, in substance: "Persons who think that extracted honey at 10 cents, could be produced as profitably as comb honey at 25 cents, are ignorant of the manipulation of small boxes." From his own words, as above, he could produce over thirteen times as much extracted honey as comb honey, that is, if he sold extracted honey at 10 cents, he should sell comb honey at $1.30.

All at once, however, Mr. H. found that honey was a drug on the market, and in September, 1875, (8) he advertised three barrels of extracted honey for sale. Now, Mr. H., one question.

If in 1874 you could sell 20,000 lbs. of honey, how is it that in 1875 you could not get rid of just three barrels? Have your customers left you? Or have honey dealers sold adulterated honey to your dealers and beat you out? If that is the case, why not sell your honey cheaper than they can afford to sell theirs, since you say, A. B. J., 1876, p. 30, that bee-keepers can raise the pure article cheaper than they can manufacture it.

My friend, D. D. Palmer, of Eliza, Ill., said in December No. of *Gleanings*, and in answer to H.'s complaint, that he, Palmer, had made $535.00 out of fifty-five colonies in one season, and thus tried to prove to Mr. H. that bee-culture does pay.

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(1) A. B. J., Vol. VI., p. 118.
(2) " " Vol. VIII., p. 251.
(3) " " Vol. X., p. 154.
(4) *Gleanings*, Vol. II., p. 143.
(5) " Vol. II., p. 9.
(6) " Vol. II., p. 109.
(7) " Vol. II., p. 101.
(8) " Vol. III., p. 128.

Friend Palmer, you can't prove anything! Mr. H. has made (9) in one season (1873) $800.00 from 16 colonies of bees, or $50.00 per colony, by his own report, and still complains that bee culture will not pay.

One more word. Mr. H. says that extracted honey is inferior to cane syrup. We don't know how his honey is, but we emphatically affirm that we have never seen *pure* extracted honey that we did not prefer to any syrup, and we know that 99-100 of our readers will agree with us in this. We say that granulated honey is the only extracted honey which is merchantable wherever buyers are acquainted with honey.

We say that honey does not need to be all capped over to be extracted. We usually take it when about one-half capped over and we *never* had honey to turn sour, although we have now on hand about fifty lbs. from 1873, which we kept for an experiment, and that honey is as good as ever. Of course it is granulated.

Mr. Heddon has answered our arguments on the usefulness of the extractor, and on the saving for the bees whenever it is used, only by telling us that he did not say that thin watery stores were the cause of the mortality of bees in 1869. True, he only said that he could see no other cause but that. In this he is somewhat of our opinion. That may not have been the only cause, but it was one of the *main causes*.

Be it understood that we entertain no hard feeling against Mr. H., but that we only wish to prove that extracted honey pays, and sells when pure and granulated, and that bee-culture does pay, while Mr. H. tries to prove the negative on these questions.

C. P. DADANT.

For the American Bee Journal.

Wintering and Springing.

Those of us who winter our bees on their summer stands, find the chief difficulty with which we have to contend is to winter over a sufficient number of bees in each stock, so that they may be strong enough to successfully contend with our damp spring.

The main point, we conceive, is not whether we can save each colony, so that we are not reduced in the number of stocks we had in the previous season, but that each individual stand shall be healthy and populous that it may be able early to take advantage of pasturage fitted for their use; who that has had any experience in the matter, does not know the vexation and labor connected with bringing up a weak colony in the spring or summer, to a proper condition to carry it through the following winter?

Now that we have succeeded for many winters past to our full satisfaction in wintering our bees, it may be proper here to give a brief description of the plan adopted. For some ten years we have practiced upon the principle of upward ventilation, (in *every instance* we have failed where we discarded this principle); our chief object has been after the removal of the honey boards (we use the Langstroth hive) to ascertain what was the proper material to place over top of the frames; after testing various substances, such as leaves, bran, corn cobs, cut straw, etc., (we never tried straw mats) we have finally adopted the following system: We first remove two combs from each hive; we then cut winter passages in every comb which is not already cut, then take a woolen quilt, blanket, or similar covering, and place over top and down the sides of the combs; on top of this we place a frame four inches deep, upon which is tacked a woolen cloth, making a chaff-box which we fill with *wheat chaff*, and place this box directly on top of the quilt, then pack sides (of double hives) and cap with wheat chaff, and the hive is ready for the winter. I forgot to state that I open and close the entrance blocks as the weather may change from cold to warm and *vice versa*. I prefer wheat chaff to anything I have ever used unless it may be a number of plies of coarse paper; the wheat chaff is also better than oats or other chaffs which lie too close and retain too much moisture, which should pass off, and therefore keep the bees both warm and dry.

The more serious matter of springing, remains yet to be looked after (and in our location, 42°, is after all the great obstacle to successful bee-keeping.) Last fall was no exception to many previous ones, in the fact that we had several stocks which proved obstinate and refused to breed late in the season; it made no difference how lavishly we fed them, either on honey, sugar syrup, or candy, we could not induce breeding, a result which we labored industriously to promote, as we are of those who believe that in order to successful *out-door* wintering, *we must have young bees*. And then again, we committed the too common error among apiarists, that in order to keep our full complement of stocks through the winter, we kept some that were too scarce of bees to keep a proper degree of warmth in the hive; and another error, we were very anxious to save two valuable queens, which we saw no other way of doing. We think the lesson served us dearly for *we lost both*. As is always the case, we can now see the remedy after it is too late to meet it. Where there are a number of stocks in the apiary we will always find some that have more brood and bees than we care to put up in a single stock for the winter. Now, how easy it would have been to have exchanged combs of brood

(9) *Gleanings*, Vol., II., p. 46.

with our stocks which refused our well meant endeavors to induce them to breed; by this course we could have accomplished the very result we so much desired; and yet, another and perhaps a better alternative presents itself, we mean the old and reliable, and I may add, the always safe remedy of doubling up, or uniting stocks; when the choice was whether we should lose two choice queens or preserve one of them, one would think it would have been quickly taken, but we have no doubt there are very many like us, who have found the most reliable axiom in bee-keeping is the hardest to learn, or at least to practice upon, we mean that which teaches to "keep nothing but strong stocks." It has been written, and re-written over and over again, but although we are willing to acknowledge its force and truthfulness, we are loth to put it into practice. Let us now resolve again, that we will do so even should we double-up all the stocks in our apiary, and then we feel confident that we shall have as little fear of successfully springing our bees, as we now do of taking them safely through the winter.

WM. S. BARCLAY.

Beaver, Pa., April 4th, 1876.

For the American Bee Journal.

King Birds Once More.

As the time is fast coming when the king birds will make their appearance, I thought I would say a few words of their real character. It is the worst enemy the bee has (the mice excepted only). Mr. Quinby says, on p. 229, that it is guilty of only taking drones. This is a mistake. I have shot them, and on examining their crops, I have found bee stings. Drones have no stings. If bee men will take pains to inform themselves, they will find this assertion true. Mr. Q. further says: "You will see it only in the afternoon of a clear day." I have shot three king birds on one morning last August before six o'clock. If any one will watch, they will see them come, as soon as the bees begin to fly, and keep busy at their depredations through the day. It is the real bee enemy. Last spring I bought of the Rev. A. Salisbury seven tested Italian queens. They were pronounced by all who saw them to be beautiful. They are my pets, and I intend to protect them, if I can, against all enemies. They made large increase last summer; they now have from 30 to 40 lbs of honey, and are strong with young bees. I would not like to be called an enemy of the birds. I love them. The king birds are the only ones I would have destroyed. I always contend that birds are of great value, and their beautiful notes are charming at any time, but king birds I condemn.

Peoria Co., Ill. JAMES JAGGARD.

For the American Bee Journal.

Bee Culture in Texas.

I have at last found time to write an article in regard to my discoveries about bee culture in Texas. In the northeast portion of the state, there is a section of the country along Red river, that is known as the rafts, where the bees do very well. There are a great many wild bees there. The "rafts" are heavily wooded with cypress trees, and a variety of undergrowth, which is green all winter. I think bees will do as well there, as any where in the United States, California not excepted. There was no day, that was clear, while I was there (in December,) but what the bees were out. I could not get an accurate account in regard to increase, or surplus amount of honey, obtained yearly, as there is no one keeping bees on the improved plan in this part of the state, but everyone says, that keeps bees, that they make "*lots*" of honey. One man, that has been living there for twenty years, says he often gets forty gallons of honey from one tree. He has fifty stands of bees, mostly in round gums, three or four feet high, and as large around as a barrel. He says he has had six or eight swarms from *one* in a season. I called to see another "bee" man but he was not at home. I asked his wife how much honey they got to the hive; she said she did not know—as they never weighed or measured anything—said they had thirty hives of bees, and when they took the honey they "robbed some, killed some of the heaviest, and saved some of the lightest over;" said they "let the neighbors have a good deal—sent a right smart chance to town, and had a good many buckets and tubs full left." That is the nearest I could come to the average of each hive. If anyone desires to make bee culture his chief business, the "Red river country" is the place.

The low-lands are rich and fertile, but not so healthy, while the up-lands are heavily timbered with pine, but the soil is sandy and not very productive.

In the north central part of the state, near Dallas and Collin counties, it is a rich farming country. My principal stopping place was near Dallas—Dallas city is situated on Trinity river. The bees were in good condition there in January, but hardly anyone using patent hives. This part of the country possesses all the honey producing trees and flowers, that we have in Iowa, with the exception of the linden. They do not cultivate any thing for bee pasture, as there is an abundance of wild flowers—on which the bees work—from six to eight months in the year Also, have very heavy honey dews at times which, of course, the bees turn to good

account. There is a weed grows here spontaneously all over the prairies, which the bees gather from; it commences blooming in August, and continues blooming till late in the fall; it looks very much like flax. The inhabitants call it broom-weed. I called on a gentleman at McKinney, in Collin county, who has a small apiary. His wife invited me out to look at the bees. I opened several hives and found them in good condition and making merry music over the flowers in door-yard. Almond trees in full bloom 20th of January. This gentleman uses the American hive. Bees mostly Italians; said that he commenced in spring of '75 with sixty-five stands, and before the year closed, he had doubled his stock, besides taking 5000 lbs. of box-honey, and 1000 lbs. of extracted honey.

The honey here is equal in quality to any I have ever seen, and the flavor is unusually good; the extracted is quite thick, some of it candied. Have a market for all they can sell right at home; 25c. for box-honey per lb., and 15c. for extracted per lb.; $1.00 per gallon for squeezed or strained honey.

In regard to country, I say it is very rich—can raise almost anything that will grow anywhere in the United States. Health good, and society will compare favorably with any new country. Land cheap. Any one that likes a warm climate could certainly suit himself in Texas. H. G. HENDRIX.

Des Moines, Ia, April 6th, 1876.

For the American Bee Journal.

Those 'Bugs'.

It is with pleasure we observe the 'brotherhood' (who live by picking 'bugs') peck (dutch word for sting) each other, while their *own* 'bugs' are laid away for future use.

Bro. Jim, 'pecks' some 'greeny' and Bro. C. P., 'pecks' Bro. Jim because he can't find the same 'greeny' to 'peck'. Bro. T. F., 'pecks' Bro. P., and others, while Bro. N., tries to lug off Bro. J. S.'s bug shanty in spite of his cackling. And another Bro. (D.) endeavors to *Staple* a *Pike* (D. A.) to keep *his* 'bug' from *humming* too loud for his *own* bug to be heard. (Can't you let her *hum*, Bro. D.?) Surely she is a *curiosity* if she can produce all sorts of eggs and 'things,' and *fur*thermore, *fur* brings a good price now. (AMERICAN BEE JOURNAL, page 109.) At any rate, if no one else wishes to invest it will pay Novice to do so, that he may have the pleasure of informing his readers what a nice 'bug' he has pinned. *Are* the white 'bugs' better than the yellow ones, and the yellow ones *so much* better than the black that we used to be so well satisfied with? Surely, the *Grim*-m one ought to know "having wintered 1400," and why does he advertise "hybrids 50 cents less (only)? And who would not rather have *pure* blacks than hybrids, by 50 cents? We have tried hybrids little ends, and found them as hard and *pointed* as any, and much more often ready to 'peck' by 50 cent's worth.

Is every new theory so much better than the old ones, that the owner thereof should '*peck*' every other but his own, instead of giving facts and figures to demonstrate the case. Do not the 'old heads' (who are so patriotic and disinterested) take more pains to write something 'taking' than to 'eliminate' the very information (which they are full of) that the beginners and others are looking and longing for?

J. O. S.

[We think most of our readers will be better suited if the stings are *all* picked out of articles sent in, but we were not a little amused to find that in this very article, J. O. S., had left in a little sting. We picked it out.—ED.]

For the American Bee Journal.

Moth Trap.

I have nineteen swarms of Italians, all in good order. I have been troubled with the moth miller, some. In 1873, I found, while sitting near the window and reading by lamplight, that the glass would be literally covered with millers, gnats, mosquitoes, etc. I took a lighted wide-awake lamp, and placed it out doors, near the house, on the ground, near several pans of sour milk and dish water, and I soon had a lot of millers, and other insects.

In a few evenings not a miller was to be found about the apiary. My hives are not over 100 feet from the house. That lamp was the best moth trap I ever saw.

On September 7th, 1875, I suffered a shock of paralysis, disabling me. I can neither stand nor walk, having no use of my legs. I often look out of the window and wish, I could be out among my bees once more.

I got thirty-three swarms from six, and 200 lbs of box honey, in the summer of 1875. MARTIN M. MALLERY.

Hillsdale, Mich.

[Those who have Italians, pay very little attention to the bee moth. Years ago we considered it quite important during the fore part of summer to examine the hives every morning; but with strong Italian stocks, we do not find it worth while to pay any attention whatever to moths or worms.—ED.]

For the American Bee Journal.

The Bee Moth.

Prof. C. E. Bessey, in the *Progressive Farmer*, gives the following history and description of this insect. The illustrations are from Prof. Riley of Missouri.

ITS HISTORY.

The bee moth, or "moth miller," (*Galleria cereana*), is a native of the eastern continent, having found its way to this country probably with the earliest swarms of bees which were brought from Europe. It is mentioned by the ancients as one of the pests of the apiary, and no doubt it has existed as long as has the bee itself. It is found, however, in greater abundance in certain places than in others. Neighbour, in "The Apiary," says that "it is not so troublesome in England as it is in America and some parts of Germany." Huber, in his work on Bees, does not mention the Moth, so it is fair to presume that at that time it did not exist in that portion of the continent, *i. e.* in Switzerland. All American writers mention it, as well they may, for scarcely in any portion of the country are bees exempt from its ravages. The venerable Quinby wrote in 1865, in his "Bee-Keeping," as follows: "If we combine into one phalanx all the depredators yet named, and compare their ability for mischief, with that of the wax moth, we shall find their powers of destruction but feeble in comparison." Harris, in his well-known treatise, calls it a pernicious insect, and Langstroth notices it at length in "The Honey Bee."

EGGS.

These they attempt to lay *in* the hive, but if prevented from doing this, they deposit them as near the opening as possible, so that the worms which hatch from them may find but little difficulty in effecting an entrance. Dr. Donhoff says; "The eggs of the bee moth are entirely round, and very small, being only about the eighth of a line, (*i. e.* one ninety-sixth of an inch) in diameter."* In a short time the eggs hatch into

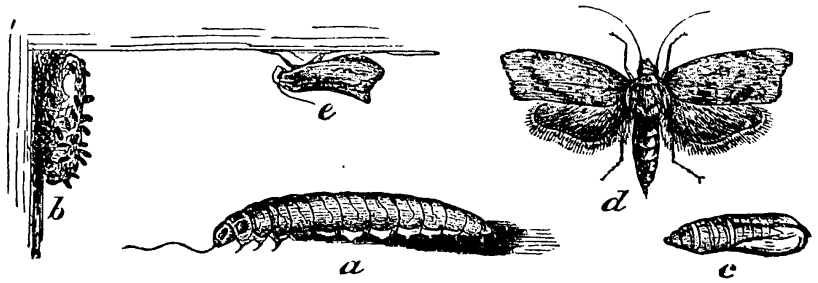
THE WORMS.

These at first are minute, but as they begin eating wax immediately, they soon grow larger, and in about three weeks, according to Harris, they attain their full size (*a* in the figure). They are provided with a silk gland, from which they spin the material of their galleries, and as they gnaw their way through the combs in various directions, they always build up their silken defenses. When of full size they seek some sheltered place in the hive, and spin their

COCOONS.

In this state they remain for two weeks, and then change to the perfect or winged form.

It will thus be seen that more than one brood may appear during the season, and in fact it is generally spoken of as double brooded, the first brood appearing in May and the second in August, but as moths are to be found at any time between these two dates, it is more than likely that three generations are frequently produced.



a, the full-grown worm; *b*, the cocoon; *c*, the pupa, or chrysalis; *d*, the female moth, with wings expanded; *e*, side view of the male moth, with wings at rest.

THE MOTH OR WINGED INSECT.

The insect which lays the eggs, is a moth, or miller, of the family *Pyralidæ*, *i. e.* the snout moths. The female, (*d* in the figure,) is of a grayish color, and with a spread of wing of a little more than one inch. The male (*e*) resembles his mate, but is somewhat smaller. When at rest, the wings are folded over the back, like the sides of a house roof.

The moths appear from early spring to some time after mid-summer, and during this time the females are engaged in laying their

REMEDIES.

The best protection a colony can have is strength. Strong colonies that cover all their comb, are the best protection. Those that are weak must be looked after, and the comb examined. A queenless colony, if allowed to remain so, becomes an easy prey to the worms. Quinby says: "whenever our stocks have become reduced, from over-swarming, or other causes, the

*A personal examination of the eggs, made with the microscope, shows them to be oval, with measurments 1-48 inch long, 1-58 inch wide; color white; surface minutely reticulated.

ravages of worms are to be expected."

If, however, the worms have gained a foot hold in the hive, or if from weakness, there is danger of such being the case, then the old and reliable remedy of hand-picking must be resorted to. All the authorities unite in recommending frequent examinations of the combs, and some suggest the use of a thin stick, pointed with iron, for killing the worms or moths which may be found between the combs, or in other places difficult of access. Such examinations should be made frequently throughout the season, and especially in the latter part of summer, and in the fall months, when the worms of the last brood are spinning themselves up.

All authorities unite in saying that no contrivances intended to make the hives moth-proof are of any avail whatever. It is impossible to arrange the openings to the hive so as to certainly keep out the moths, although of course a small opening is better than a large one, because in the former case the bees can guard it more thoroughly. Hives made so as to close automatically at night-fall, and those which are closed by the weight of fowls on their roosts may as well be discarded at once, and the bee-keeper who invests his money in one is simply throwing it away.

For the American Bee Journal.

Extracted Honey. (Sugar Syrup.)

I cannot refrain from replyiny to one or two articles which have lately appeared in The Journal.

B. Y. T., of Henry County, Ind., says: "I see * * * there was a poor honey harvest in nearly all parts of the country. Still the markets are better supplied with extracted honey (sugar syrup) than in any previous year, etc., etc." Now, that his assertion is incorrect, I will show in three ways. Now, mark you carefully, he says extracted (sugar syrup). Bee-keepers do not *extract* sugar syrup. They need not feed it to the bees to extract it. Again, mere white sugar syrup is too costly, (brown cannot be used). Is he so ignorant that he does not know that glucose is the article used to adulterate with? Can he point to any bee-keeper who adulterates his own raising of honey before it goes to market? There are some five or six honey dealers who adulterate with glucose; then, that is not "sugar syrup," nor half so good. His whole charge is directed against bee-keepers, and honey dealers are not on the list, *only* those who extract are subjects for Orange Judd & Co. Worse still, no honest man will use an extractor at all.

Secondly. Did B. Y. T. stop to enquire how much old honey there was on the market? How much poplar, fruit-bloom, buckwheat, that is too dark for sale in jars, or almost any way, only in combs (it sells in the comb). Yes, and when it is in the comb, it is "*pure honey*," but extracted, it is sugar syrup. Calling *all extracted honey*, sugar syrup, and all who extract, humbugs, is an insult to bee-keepers that no honest man will give, who is fully posted in the matter.

We would infer that extracted honey is the only adulterated honey. I heard from two good men, that a man not a hundred miles from Lawrenceburg, Indiana, sold, during fall and winter of 1874, at retail, at 18 cents per lb., 1,800 lbs. of sugar syrup "IN THE COMB." He offered it to a honey dealer, but was informed of its quality. What will B. Y. T. say to this? I shipped 10 barrels of "*extracted*," and there was not an ounce of "sugar syrup" or glucose either, in it. Mr. Charles F. Muth can speak of its quality. Extracted honey is the best for the consumer; he can see and taste for himself, and not buy comb-honey, like a "pig in a poke." Wax is indigestible and injurious, and should not be eaten. As to preaching against extractors, it will be about as ineffectual as turning a river back through its beaten channel; if not *allowed* any other use, we will keep them to make room for the queen, and feed our humbug honey to the negroes, who would smack their lips at "*sugar syrup*." Let bee-keepers sell direct to consumers, and there will not be any more fault found with extracted honey. I have a way of extracting honey, and have the dark and light kept separate; return the dark to the bees for winter, and sell the fine.

B. Y. T. wants the columns taken up with directions for making box-honey. Perhaps the Indiana man (who sold the 1,800 lbs. of "sugar syrup" in the comb,) would, for a paltry sum, give Mr. B. Y. T. a recipe for it.

Mr. James Heddon seems to have created a stir among the hives. He asks why "C. O. Perrine replies that he does not want to buy honey at any price." Well, glucose is plenty and cheap. There is no use of selling to such men, as there are a plenty of others to buy. There is no room to complain when we can get from 10 to 12½ cents for good extracted honey, that is equal to from 21 to 25 for box, and far less expense, danger, too, and expense of shipping. I have tried both, box and extracted. When you can give them small pieces of comb to induce them to build, it requires 1 lb of box to equal 2½ of extracted; without any comb, 1 of box to 3 of extracted; if you take out frames and insert boxes in their stead, 1 pound of box to 2 of extracted. When close to market, boxes may do; but when a distance to ship and honey is fair, then extracted.

Mr. Heddon says, when apiarists learn

to get as much comb-honey as extracted, there will be but little extracted honey taken. I say so, too; but, then, no man of intelligence can expect any such a result. I will not call Mr. H. what *The Bee World* did, but it would require a wonderful manipulation and double amount of comb, and men to manage, so as to dispense with the extractor. To say that extracted will not sell to experienced purchasers, will not bear proof. I agree most heartily that honey should be *well "ripened"* before it is extracted; and just here is where honey gets its damage, and it has greatly impaired the extracted honey trade. Some men have lauded bee-keeping to the skies; but it is no use now running to extremes the other way. You have gone to such an extreme in making money out of bees, that men of ordinary talent lost sight of you; and now, please, don't come back to your honest starting point and disgrace your beginning. Ah! friends, you have done too much to induce men to bee-keeping, but now you find you have said too much, as a class, to sell your wares, and now your customers are in your footsteps, and like yourselves, looking for the golden prize (a fortune), but now you turn and view. "Oh! there's too many coming now, and see the multitudes about to start." Oh! listen to the *wail* of your leaders of "patent hives, honey extractors, comb guides, boundless depths of honey, *money in the apiary, big lots of honey for sale*," etc., etc. Another tune is now played to the words of "*Old Hundred.*" Away with the extractor, it is not needed; our bees, after being wintered, and even up to June, after long feeding, nine-tenths have died, we *can't sell* a small lot of box-honey, and, oh! not a drop of extracted wanted at 9 cents, and I get only 200 lbs. of it per hive. Oh! stop in time. A German-sized farm (four acres) rather than 100 hives of bees. B-u-t w-e w-i-l-l meet next May, and see what effect the winter will have. Now, such is a true and condensed view of the proceedings in Ohio and Michigan for five years. There is a man in this State who had his bees manipulated for him just before, and in the beginning of the honey harvest, he extracted an unusually large quantity, but the honey was *quite green* and should have been one-fourth less. The amount was 48 barrels. But when I saw the account last, in the *Rural New Yorker*, it had raised to 149 barrels, and 20 barrels on the way to France; but none of it passed New York, or brought over $1.11 per gallon there. He had 149 colonies in July, 119 in November, and *less* than a hundred now, yet he informs us that they are doing finely, and that he has not lost any. He does all he can to keep men from entering the business, and endeavors to drive away what are there, and by means not according to apostolic mode, or the golden rule. The truth is, there are no fortunes made, and I am sure, none lost. The income on the investment is a fair one indeed, but it will not do for the inexperienced to depend on it, for they have seven chances to fail to one to succeed.

I am anxious for the day to come when honey will be put on an equality with other sweets, sugar and syrups, that adulterations will cease. Put extracted 8 to 10 cents, comb 14 to 18 cents, then honey will be consumed instead of sugar in many preparations, and then there will not be any more danger of over-stocking the market with honey than sugar. This will be a good profit for bee-keepers and always a ready sale. Give me a guarantee of 8 cents per lb. for well ripened, fully fair, extracted, for three years to come, and they can have, (Heddon) can have the balance. I dare any one to give bond in the sum of $10,000.00 for fulfillment of the contract. I will wager 10 barrels of honey that I can sell 150 barrels per annum of extracted honey and net 14 3-5 cents per lb. Will you take me on either?

Point Coupee, La. SIX.

Depression in Apiculture.

The following paper on this subject was read before the N. E. Bee-keepers' Society, at their late meeting at Utica:

When Mr. Langstroth wrote his "Hive and Honey Bee," more than twenty years ago, the first sentence stated that "Practical bee-keeping in this country is in a very depressed condition." If the above quotation was applicable to the condition of American bee-culture twenty years ago, when bees wintered without loss, when the forests were dripping with nectar and large yields of honey were the rule, and when the labor of the apiarist was amply remunerated by the ready sale at a good price of all the honey he could produce, it is doubly so now when the "bee disease" depopulates our hives in winter, when the denudation of our timber lands has so modified our climate as to render the secretion of nectar uncertain, and the low price and dull sale of what honey is obtained diminishes the profits of the apiary. Without entering into the details of the cause of the present depressed condition of bee-culture in our country, it may not be altogether unprofitable to consider the problem of how we may secure our surplus honey in order to realize the most money therefor. We all remember the excitement created in America by the introduction and use of the honey extractor, and the oft repeated assertion that this machine was the long sought desideratum that would render bee-culture an occupa-

tion at once pleasant and profitable. The results accruing to any method are the safest and surest test of its utility; and we would ask, have they verified the prediction referred to above? Is not bee-keeping more hazardous and less remunerative to-day as a pursuit than at any time within the last twenty-five years?

It is not necessary to enumerate the evil consequences which have attended the use of the honey extractor on an extensive scale in the production of surplus honey, as they must be patent to all. The vast amounts of raw, unripened extracted honey, together with the sugar and glucose that is sold for honey, having nearly ruined the sale of the liquid article and lessened the price of all honey, there remains but one alternative that will give us any permanent relief; viz., to secure our surplus in the comb in such a manner that it will command a ready sale at a fair price. To secure this end it must be stored in neat and attractive packages, holding from two and one-half to four pounds, gross weight. The glass box, weighing two and a half pounds, we have found to be much the most profitable, since we have been able to secure just as many pounds of honey, as by raising the larger sized packages. When it shall become generally known that just as many pounds of comb honey can be obtained in any season, in small glass boxes, as can be secured in liquid form with an extractor, it seems to us that our honey extractors will go out of general use. We are often asked this question: "Is not an extractor a necessary adjunct in an apiary, when run to box honey?" We can conceive of no possible use for it, except to empty combs from hives in which the bees have died in winter. One hundred swarms that are run to extracted honey, will keep an aplarist busy for four months of the year to produce the honey, and six more to sell it; while three times that number can be run to the little boxes with less labor in the production, and not more than one-sixth the labor is required for marketing it. Such at least is our own experience, and we have tested both systems pretty thoroughly. To insure this most desirable result, the shallow frame of not more than eight and one-half inches in depth, the small hive 1500 (or less) cubic inches capacity, and prolific Italian queens, are indispensable requisites.

The depression certainly has induced us to study and investigate its causes and cure, to scan more closely the basis of our past efforts and the fundamental principles of our present system. And more than all, it has enabled us to comprehend one simple fact hitherto entirely overlooked, that honey production is the foundation and ultimate end of all bee-keeping. Realizing the importance of this fact to some extent, the Michigan Bee-keepers' Association devoted a portion of their recent annual session at Kalamazoo, to the consideration of this subject. The great cry has been, "every body should keep bees because there is a mine of wealth in it, and little capital and less labor is required to obtain it than in any other pursuit." True, most of these statements are made by parties who are interested in swelling the ranks of agriculturists, hoping they would become patrons of their wares—"apiarian supplies." The result is that hundreds and thousands of pounds of honey is begging for a purchaser to-day, at a price below the cost of producing it. Now the position we take in this matter of roping new recruits into the business is simply this: give a fair and candid statement in regard to our present circumstances and future prospects; tell the world that our bees die in winter; that we secure a limited supply of surplus honey quite as often as we do a bountiful yield; that honey is fast getting to be an unsalable article; that it requires pluck, perseverence, great energy and skill, and no small amount of capital to make bee-keeping even a moderate success, and having told the plain truth leave every person to choose for himself.

HERBERT A. BURCH.

For the American Bee Journal.

Distance of Combs from Centre to Centre.

As there seem to be various opinions on this subject, I will give the result of my experience and observations. I once saw the question asked in the *Bee Keeper's Magazine*, "What is the exact distance required from centre to centre of combs?" The answer was 1 7-16 in. I then supposed that there must be a uniform distance that bees would build their combs in a box, hive or tree, or any other place where they were allowed to superintend their own business, and that any deviation from that rule would intefere with their prosperity; and yet I wondered how a bee keeper could be so exact as to adjust the combs to the exact 1-16 of an inch every time they were taken out and replaced, or put into another hive, without using a rule to measure them every time. I knew this was not done, and yet I knew there were many successful apiarists. Some writers still advocate the same distance of 1 7-16 in. A. Benedict wrote an article in the AMERICAN BEE JOURNAL for November 1875, in which he stated: "In building combs bees make them a certain distance apart and they should be kept frame to frame just as the bees construct them." Now if this gentleman has guide bars in his frames, and will put a set of frames into a hive at various distances apart, not going

to extremes, and set the hive level and put a swarm of bees into it, he will find they will *not* build their combs a *certain* distance apart, but will build them just where the *frames* are placed.

When I first noticed the theory of a uniform and exact distance, it was a matter of much interest to me to know whether it was absolutely essential or not; and to satisfy myself I improved the first opportunity I had, to measure the combs in a box-hive, and found to my gratification there was a variation of at least one half inch; and since that I have measured a number of box-hives and find a variation of from 1¼ to 2 inches or more, measuring from base to base of combs. This explodes the *theory* with *me* of a uniform distance from centre to centre of combs; or a uniform thickness of store combs. As there is a uniform space between store combs, the variation must be in the thickness of them; and as the lower part of the same combs are used for breeding and brood combs are of a uniform *thickness*, the variation must of course be in the *space* between the combs. I use twelve combs in an 18 inch hive and do not pretend to adjust them to the exact 1-16 of an inch every time I replace them, and find no trouble in keeping strong stocks and getting a large increase of stocks and a large yield of surplus honey. Where is the key to the uniform distance from centre to centre of combs, since bee instinct fails to explain it? S. K. MARSH.

Palo, Mich.

AN ADDRESS

READ BEFORE THE SECOND SEMI-ANNUAL SESSION OF THE MICH. BEE-KEEPERS' ASSOCIATION, AT KALAMAZOO, MAY 6th, BY T. F. BINGHAM.

In introducing my subject, reference should be had to the great and growing interest felt in bee-culture. It is met with on all sides—from the honest farmer of sixty years, whose stolid, even life, opens only to the rich perfume of his well tilled fields, or the poetic disquisitions and syren tongue of that *noble middle* man, who in recounting the joys and glowing accomplishments of the honest farmer around whom honor, independence and rural greatness stand like cherubim—quietly introduces the *horse pitch fork* and the various *bee journals* and the *patent bee books* — on whose glowing pages in letters of fire stand these *immortal words*: "Entered according to act of Congress in the southern district of the state of New York, in the year of our Lord, 1874." I should not be pardoned if in this recital of Patent things, around which fame and fortune cluster like moths around a bee-hive—if I didn't mention that MUCHLY abused necessity—that "patent bee hive."

Neither does the interest stop here! That compactly built and most ancient bee keeper, and dealer in Italian queens and bee keepers' supplies — (enclose stamp for circular). Ex-president of the Northeastern Bee Keepers' Association, Mr. M. Quinby, stated before that honored body that bee culture should be taught in the Agricultural Colleges; and further to the glory of our state and institutions, he said Michigan would be central and well adapted to such training as this sweet scented industry doth most require. We owe this distinguished compliment, I presume, to the able paper from Prof. Cook read at said convention. We won't find fault with anyone; but we might be pardoned for asking why *this body* of whom Prof. Cook is a part, could not have had so great and valuable a paper—which allow me to say—(Prof. Cook is not here I believe) is the most valuable contribution made to bee-culture for many years, and our *convention* should have had the *honor* of it!

Now gentleman—I guess there are no ladies here—after this elaborate introduction, who among you could fail to anticipate my subject? And echo answers—anticipated!

However far-sighted you may all be—and bee keepers have always been like spiritual mediums, chock-full of visions—I will give my subject a name:

THE REQUISITES OF A SUCCESSFUL BEE KEEPER.

I have interrogated the historic bee-keeper. The man whose cheeks have glowed and rounded, whose frame has filled out with the perfumed sweetness of forty summers. Yea, and I have interrogated him———

What a halo of glory! He stands on time as on a *pedestal*. He moves in the traditions of his fathers. Bee-keeping rests upon him like a mantle. It has come down to him in true apostolic succession. We look up—he is there, on either hand—and he is before us! We extend our vision backward across the boundary of experimental bee-keeping—and behold he is there! A strange mystery encompasses him. His snowy head, his look of wisdom; we look, we venerate him! Like other bee-keepers, however, he talks freely, recounts bee-hunting exploits, and lives over again his ancient pleasures.

He follows down the innovations and encroachments of the patent bee books and the patent bee hives, with their network of slats and painted hulls, on which, as if to cheat oblivion of its certain prey, stands the name of the man who, year after year, and month after month, watched by night and by day the robber and the moth, and the devastations of winter, and all the calamaties of bee-life, and who now, by copyright or patent, can tell how

to double the profits of the apiary, etc.; or furnish bee-keepers' supplies—"*Please send stamp for circular.*"

Of books he has no need; his bees are rich in stores and limitless in numbers. He surveys them like a monarch, and feels that they *adore* him.

He hears their pleasant note, and breathes the incense of a hundred blooming fields. His heart is full of gratitude and his head chock-full of pride.

Pride—yes, pride! He is proud and great—his subjects are legion—he rules as if by Divine right.

Who shall question his authority? Whence came the subtle art?

He alone can tell:—

His grandfather had that rare gift, the divination of water and the precious metals. His father that more than art, the gift of *second sight!* While he, majestic in his pride, rejoices that he is the seventh son. Then what must one be and what must one really know to keep bees? It takes a peculiar kind of sense, or extra sense—or something which common people don't possess.

Bee craft belongs with second-sight and water divinations, and the seventh son. It is a kind of knowledge that cannot be acquired. It transcends logic. It is independent of education. It is a gift. A man must be born to it.

For the American Bee Journal.

Who is to Blame?

Not many miles from this place a very pious old gentleman is selling patent right territory in a certain bee hive which is a side, end, and top opener, with various nails and wires to hold the frame in certain supposed desired positions. As near as I can learn, the pious old gent has sold nearly $4,000 worth of territory to different persons, besides very many of these every-side opening hives. Probably there never was such a favorable time as just *now* to sell *any* kind of an apiarian humbug. Why is this so? Because too many of us have put only the bright side of the question out, and more than all, because only till recently in this country has apiculture been adopted as a SPECIALTY, and many farmers and bee-owners generally, are disposed to think that they are as capable of producing large yields of honey as the specialist, and when they are reassured that they *may*, "by just purchasing one of these quincuplexal bee palaces" of course they "draw their weasel skins" and "shell out," thereby expecting to make money out of bees, like their neighbor, Mr. A., (who does nothing, and thinks of nothing else,) besides reaping the same profit from their vegetables, grain, fruit, stock, etc., as before. While these parties are meeting with this disappointment and loss, they are at the same time dragging down those who are struggling to "get on" in the business.

In May, B. K. *Magazine*, a writer cites us to the time when honey sold for 12½ cents per gallon, while brown sugar sold at 25 cents per lb. This proves what I have many times said in convention, that we must look the matter square in the face and recognize the fact, that cane sugar is in every way vastly superior to honey, except for sauce. Not a great deal of honey will be required to overstock the market for the last named purpose. Our only hope is that some plague will annually decimate the numbers of colonies of bees as fast as they increase in summer. If all bees would winter well, as many desire, in the near future every rod square in America would contain a colony of bees, and then couldn't we sell "Peter Funk," hives, "yaller" queens and "sich" though? I do not object to the making and vending of all kinds of needful apiarian supplies, but let those do it who are not only situated where they can offer goods cheapest, but who have proven by their success as honey producers, that they know *what is needful* and what is not. After all, perhaps no one is more to blame for the fictitious condition of apicultural affairs than ourselves.

What reader of this article does not know that every man who has helped pile up this $4,000 above referred to, has just thrown away his money? Yea, even worse, his time and attention, while the fever is having its run. JAS. HEDDON.

Dowagiac, Mich., May 9, 1876.

For the American Bee Journal.

Buzz-Saws.

I have had enough experience with buzz-saws to know what we want. I will give my experience, feeling confident it will be the means of saving much useless expense. I had been using a one-horse power and found it was too unsteady; the motion would run down, so I would have to quit sawing for a few seconds.

Last fall, I concluded to try the "V. M." gearing, made by the Combined Power Co., New York. They claimed it had leverage, run very easy, etc., but I soon found it was a humbug. The fact is, leverage cannot be obtained on a vertical cog wheel, or any other. A man cannot stand it to run their machine an hour without sawing. To do good work, I had to hitch two horses to the power. I bought the No. 2 "V. M." *gear*, price $75.00; forty turns of crank gave my saw 3,000 revolutions. Finding this too fast, even for a horse, I took off three-fourths the gearing, so I could run the saw from 700 to 1,000 revolutions per

minute; then I found I could run a great deal easier. Next, I put a 27 lb. balance on the saw-shaft. This made it much better still, and right here I will say, that no one should undertake to make hives without using two balance-wheels; the one on the saw shaft should be 20 to 24 inches in diameter, and weigh 25 to 40 lbs., the other about 100 lbs., and three feet in diameter. It may be used for the pulley. A small pully can be put on the same shaft, so we can use another belt and horse-power when we have much sawing to do. The saw can be run 1,500 to 2,000 revolutions with one horse. I hope some honest man will make saws as they should be, at a reasonable price. They can be made for $40.00 or $50.00.

I would like to hear from others. It is certainly your duty to speak on this subject.

R. S. BECKTELL.

New Buffalo, Mich.

For the American Bee Journal.

Bee Notes from Morrison.

And surely they can not be very warm ones, for here it is, April 18th, and hardly warm weather enough for bees to fly, wind in the cold north and cloudy over head! The earth saturated with ice water and every thing blue with cold, does not give bee-men a cheerful outlook for profits from the apiary; still we can hope for the warm sun to heat up mother earth by and by. We thought last spring that we were having the worst spell of weather, but I hardly think it would compare with this; thus far we have had no such warm days as last year, vegetation is not so far advanced—although the past winter has been more mild—yet, I opine that we will have more trouble to successfully spring our bees than we did last year—if we have had so mild a winter—and speaking of "springing" our bees, reminds me of the location of some of the apiaries in the country. Did it ever occur to some of our bee-keepers that there is a draught or current of air out of doors? Just as dangerous to a stock of bees as to the owner, is a slight, steady cold draught of air, such as one will experience in some places almost all the time, be it never so still and warm; and as man is subject to disease in such places, so will a stock of bees feel the effect of such localities which will be manifest in the depopulating by degrees, of the stocks, without being able to discover the reason why; this cool air is very pleasant for man for awhile in a hot day, but it will tell on the constitution in time, if one is compelled to live in it.

I would much prefer my bee yard where the heat of the summer's sun can have *full* play with no cooling draught, than to have the same located in the refreshing breeze; at *all times* bees like comforts as well as man, and they know best how to appreciate good locations, and the man that has his stocks stand in such an unhealthy place must have himself only to blame, if in the counting of his profits, he mourns over the loss, instead of congratulating, with the success of his pets.

Bee-culture has become too much of a science, to discard, even the minutiæ of its surroundings, and since we have got by the "taking up" process for our profits, and come to consider apiculture as one of the sciences, it is necessary that the *first* principles should be well established, ere we can look for the dollars and cents in the results. Theory as well as practice admit that, in order to obtain *good* results it is absolutely necessary to have our stocks strong and healthy, and if our apiary is located in an *un*healthy locality, how can we expect other than unsatisfactory results; and as health is wealth with man, so is a healthy wind sheltered spot, one of the main points of success in the management of bees: and another point that I think of much importance in springing bees, second only to location, is the feeding of them a little, and that *regularly, and often.* Even if they have a plenty, or a super-abundance, we all know that a queen will lay more eggs when food is plenty and coming in, than when it is otherwise—and right now is when the extractor is of as much value as at any time during the year, by taking away the surplus honey that may remain in the hives, and judiciously feeding it back to the stocks; in *no way* can stocks be built up so rapidly and be ready to gather the honey from the fruit flowers that will soon come. Don't wait for the bees to have to find it on the trees; put some food where they can have access to it and not have to go miles to *hunt* in the cold winds and come back benumbed with cold, obliged to linger outside because the chilly wind drives them in their fatigued condition out of their line of flight; they are blown down and get stiffened upon the cold ground, and consequently, can not rise again, and are *lost*: every bee lost during this month, is worth five in July, and if we can keep them busy at home, we will have fewer losses in springing, and stronger stocks to gather the honey by and by, for the honey will be in the flowers, it has every year so far, and '76 will not be an exception in *that* respect! Sometime before next winter we will have a honey harvest, if we only have the gatherers; and speaking of honey extractors, how many apiaries that contemplate or intend getting an extractor this season, will wait until they want to use it, then make up their mind, and order one and the *next day*, go to the express office and see if it has come, and after the second day or visit, write the manufacturor a scathing

letter, because their extractor has not come, and they *need it so bad.* Now I know some, a good many, will do it and then blame the maker because he is so slow. A little secret I'd like to tell: and that is, that *every* manufacturor of extractors prefers from choice, to make his machines to *fit* the frames intended to be used, if possible; they give better satisfaction to the operator, and it is more pleasant to all parties *to have things fit*, consequently, they prefer to fill the orders as they come, and don't keep the extractors in stock *completely finished*; so sometimes, it takes a little time to fill the order. So please don't wait until you need it, but order one before the time of need, and keep cool with the season; you must not hurry, or get excited among bees, or about them—but have your plans, as well as hives, matured. Before swarming time, bees do nothing invariably, so get ready before hand for what is to come, and may we all be happy and successful with our pets this centennial year!

FRANK W. CHAPMAN.

For the American Bee Journal.

My Report for Two Years.

Now that the season has fairly opened and my bees are safely through the winter, and bid fair to pass safely through the the spring (especially as I am feeding them about 5 lbs. of honey per day with a view of making them strong for the first flow of honey) I feel at liberty to make known what progress I have made.

About the 1st of June, 1874, I began with two swarms of Italian bees at a cost of $43. At the close of the season they had increased to seven swarms, all of which safely wintered in the cellar. I passed them through the spring of 1875 without feeding which might have been done this spring. I estimate the yield of surplus honey from the seven stands for the year 1874 at 175 lbs., so a statement for that year would be about as follows:

	Dr.
To 2 swarms Italian bees	$43.00
" 1 honey extractor	12.00
" 1 smoker	1.50
" 1 veil	.75
" 1 honey knife	.50
" 7 boxes or hives	10.00
Total	$67.75

	Cr.
By 175 lbs. honey @ 25c per lb	$ 43.75
" 7 swarms @ $15 per hive	105.00
Total	$148.75

Subtracting the outlay from the income shows a balance of $81 in favor of the apiary for 1874.

During the year 1875 the number of swarms increased to 22 and the yield of honey was 550 lbs., while the only expense was 30 dollars for new hives. It will thus be seen that I received $137.50 worth of honey and found a capital on hand in the way of bees and implements of the cash value of $344.75. It is due the business to say that I had to neglect it almost entirely from the first of August during the balance of the season, owing to my hired help leaving me with all the farm work to attend to. In consequence of this neglect, four swarms became queenless and died in the winter, a result I could have prevented by giving them a queen in season. When I discovered it, it was too late as a worker bee had already begun laying eggs; after which the bees own the fertile worker as their queen, (whose eggs will only hatch drones) and will not accept a pure queen, nor raise one from larvæ given them, which they would have done had they been in possession of it when the queen was lost.

Clay Co., Iowa. W. W. MOORE.

For the American Bee Journal.

My Bees.

The summer of 1875 was an unusual one, in northern Illinois, at least, cold and backward during the early part, so that, up to July 10, the bees had gathered only enough honey for their own needs; then a yield of honey that just set them crazy with the swarming fever. From July 10 to August 10, I was kept in the city, and had confidently counted on the bees being satisfied not to swarm during that time.

Although I had left them weak, they must have built up with great rapidity, for letters kept coming telling me that the bees had swarmed, and Mrs. L. was kept quite busy superintending the hiving, Jeff doing the work. Unfortunately, Mrs. L. is one of that class who are badly poisoned by a bee-sting; so she dare not handle bees. I regret this exceedingly, as I should very much like to have my wife practically interested in everything that pertains to bee-culture.

Heretofore I had always done all the work with the bees myself but had to give it up now, for here was a full month of work, requiring constant watching; many swarms coming out several times and going back, because the queen's wings were clipped.

On my visit Aug. 10, I looked over the bees, giving frames of brood to the weak swarms and uniting a few, extracting about 150 pounds of honey.

Sept. 2, I went out again and found that the bees had been making good use of the time, some of the hives being so full of honey, that the queen had room to lay eggs only in the lower edges of the combs.

I overhauled 25 hives, extracting what honey I thought they could spare and still leave them *plenty*, and would have done the same thing with the remaining 15, but they began to do some robbing, and I thought best to stop operations.

November 25, I went out again, but my wife had got the start of me, and had all the bees in the cellar except two swarms which were so strong and cross that they were left. These two, I helped Mr. P. put in the cellar; and, after loosening up one corner of each quilt, they were left for their winter nap.

Dec. 6, My wife gave them an airing by opening the inside cellar door and building good fires in the kitchen and in one room over the cellar. A chimney running *from the ground* up through the house has a stove-pipe hole opening into the cellar, and in this hole is put a stove-pipe opening on the cellar bottom. This is left open through the entire winter.

The winter being so very mild, I felt quite uneasy for fear the bees would be too warm, and I should find a good share of them dead, on the cellar bottom.

February 12, my wife went out and gave them an airing and reported them quiet.

April 10, she took up her summer quarters on the farm (if 25 acres can be called a farm) and reported the bees somewhat uneasy, and the cellar and house damp. The weather being too cool to set out the bees she set to work drying out the house, and airing the cellar; and they quieted down.

April 17, I went out on the evening train fervently wishing it might be a good day for bees to fly on the morrow. My wish was gratified, and in the forenoon the bees were carried out by Mr. P. and D., the latter being Mrs. L.'s assistant farmer for the present summer. Five of them were dead. One of these had been allowed to fall, on being taken in the cellar, and all the combs were broken down. Not a drop of honey was left. There must have been plenty of honey in the combs when taken in the cellar, or they would not all have broken out of the frames. Did their being down on the bottom of the hive make them eat so much more honey? One other seemed to be out of honey, and I am sorry to say one of them had been given scarcely any ventilation and was quite wet and mouldy. A sixth was queenless with a mere handful of bees, and these I gave to another hive.

This left me with 34 hives *wintered*, and with the exception of two, they appeared to be in pretty fair condition, there being bees in four or five of the spaces between the combs, and in some of them as many as six spaces had bees in. This seemed to be doing pretty well considering that they had been imprisoned from November 24th to April 18th, nearly five months. The two weak ones were very weak, but if I could be there to nurse them, I think they could be made to pull through the spring. As it is, the matter is somewhat problematical. To help them, I put in a division board and covered them up as warm as I could. B. LUNDERER.

For the American Bee Journal.

Bees Working in Rye Meal.

As the season is near at hand for feeding bees rye meal as a substitute for pollen, it may be of interest to know how they manage to make the fine, dry particles adhere, so as to remain in their bread baskets, being on the wing most of the time while working upon it. Pollen is obtained from the flowers to the best advantage while the atmosphere is moist, so the bee imitates nature by supplying the required moisture so as to make the fine, dusty particles adhere to each other so they can handle it. By observing bees while at work on rye flour, the process they resort to is readily seen; they will be continually running out their tongues and wiping down upon it with their fore feet, and keep up a sort of chafing motion with all of their legs. By tasting of it after they have worked it, it has a sweetish taste. The probability is, they use honey to a certain extent to dampen or moisten themselves for the purpose above stated. This may seem like a small matter to some, but all such matters are felt in the aggregate, and it goes to show that the honey-bee is not ashamed to spit on his hands and take hold of hard work.

Ono, Wis. M. S. SNOW.

Bee-Keeper's Association.

The Henry County, Ohio, Bee-Keeper's Association met at Napoleon, Ohio, April 22, 1876.

The object of the meeting being stated by D. Kepler, Capt. W. F. Williams was appointed President, *pro tem.*, and S. L. Curtis, Secretary, *pro tem.*

On motion the following Constitution was read, adopted by sections, and then adopted as a whole:

CONSTITUTION.

ARTICLE 1. This Association shall be known as the Henry County Bee-Keepers' Society.

ART. 2. Its object shall be the promotion and encouragement of bee-culture in Northwestern Ohio.

ART. 3. Any Bee-Keeper in Northwestern Ohio may become a member by a vote of two-thirds of the members present, and paying a fee of fifty cents and signing the Constitution.

ART. 4. The officers shall consist of a

President, Vice President, Secretary, Corresponding Secretary, Treasurer and an executive committee of three, who shall be elected annually and hold their offices until their successors shall be elected.

ART. 5. All committees except the executive, shall be appointed by the President, except by special resolution.

ART. 6. The stated meetings of the society shall be had on the 1st Saturdays in January, April, July, and October, at such time and place as a majority of the members present at any stated meeting may determine.

ART. 7. A special meeting may be called at any time by the executive committee.

ART. 8. This Constitution may be amended at any regular stated meeting by the concurrence of two-thirds of those present, provided notice of such amendments have been given at a previous meeting.

The opportunity now being given, the following parties signed the Constitution and paid their admittance fee.

B. Bowlsby, J. Huddle, Daniel Kepler, W. F. Williams, Geo. W. Buchanon, Geo. Reinbolt, S. L. Curtis, David Bartgis, E. L. Mann, J. P. Watson, John Wright, David Clifton, Wm. A. Dunham, John Yaney, J H. Bartgis, H. Leaders, J. M. Shoemaker, J. W. Stevens, T. B. Hayes, K. Rakestraw.

On motion of W. F. Williams the meeting then adjourned until 1½ o'clock in the afternoon.

The afternoon session met at the appointed time. The minutes of the forenoon session were then read and adopted. On motion of E. L. Mann, the meeting then proceeded to the election of officers. The names of W. F. Williams and E. L. Mann being announced as candidates for President, a ballot was had which resulted in the election of Col. E. L. Mann. Capt. W. F. Williams was elected Vice President by acclamation. The following officers were also elected by acclamation:

S. L. Curtis, Recording Secretary; Daniel Kepler, Corresponding Secretary; Thos. B. Hayes, Treasurer. Several names were announced as candidates for executive committee, but all other names being withdrawn, Dr. J. M. Shoemaker, David Clipton and J. P. Watson were elected by acclamation.

Remarks were then made by D. Kepler, G. W. Buchanan, Dunham, Shoemaker, Yaney, Bowlsby, Bartgis and others; and an hour was occupied in an interchange of views, and the questions freely asked and answered, manifested a lively interest in bee-culture. On motion of W. F. Williams, the Corresponding Secretary, to be assisted by the President, was instructed to take such steps as are necessary to bring about the organizaton of a State Bee-Keeper Association, in the State.

S. L. CURTIS, Sec.

Michigan Bee-Keepers' Association.

The third semi-annual session of the Michigan Bee-Keepers' Association was held in Kalamazoo, on May 3d, 1876. The attendance was larger than at any previous semi-annual meeting. The discussions were animated and interesting, eliciting much valuable information. They embraced many topics of vital interest to American apiculturists, and fully sustained the national reputation of this Association. Those engrossing topics, winter bee-keeping, honey markets, and best method of securing surplus honey, were ably and thoroughly canvassed. The extractor found many warm advocates, who still insist that its extensive use is essential to success. From the statistics collected, it appeared that the losses in wintering had been quite general throughout the State. Much the best success has attended out-door wintering.

Under existing circumstances, it has been deemed advisable to omit the discussion of the several topics. The next annual session will convene in Kalamazoo, on the 2d Wednesday of December, 1876.

HERBERT A. BURCH,
Sec'y.

For the American Bee Journal.

An Explanation.

MR. EDITOR:—After the high-toned and dignified position taken by you, in a recent number of the AMERICAN BEE JOURNAL, in regard to correspondence, I am somewhat surprised at seeing Mr. Bingham's article, on pp. 138-9, May number. I am also surprised at his writing so many untruths in reference to my business; he seems terribly "*jarred*"—is afraid—has lost faith—strikes out blindly and indiscriminately—insinuates—talks wise—tries to joke a little, to reassure himself that he is not hurt, etc., etc.

In a statement, in a previous issue, you excused a misstatement of his on the ground of "treacherous memory."

He speaks in this article of my "letters and articles previously written," showing an unfriendly feeling towards honey producers.

I know of but one article, or letter, written by me for the AMERICAN BEE JOURNAL in a great many years.

I have made maple syrup for the past eight years, some time before the infant days of comb-honey jarring. The "Kanuck" brand can only be made by myself, the name being my trade mark.

The cry of adulteration has had nothing to do with my syrup business; that cry on the part of honey producers has not affected my trade a particle; but that cry on the part of my customers, who have had, and have now, candied jar honey on their

shelves, has caused me to invent modes, which I have covered by letters patent, of getting up jar honey in which there is no honey outside the comb to get candied—of course it will be said I have no right to these patents, but, *I have them*,—the bees themselves packing it in the jars—*don't get skeered, nobody*—it is box honey, only it is in jars. The candying of honey has been my only trouble in jarring—the best evidence of its purity its only enemy. I have bought dozens of copies of the different bee papers, containing articles on candied honey, and sent to those who called such honey impure; but they often thought we were in the same balloon, and would none of it; others simply wish me to exchange for fresh goods. Still the trade has been good and continues so, but the new style of packing will be the *ne plus ultra*—which undoubtedly will be imitated before the first season is over, and they will swear that their grandfather did the same thing, but they did not think it worth anything—and probably it was'nt; or they may refer me to Sampson's lion carcass, in which bees stored honey. Well, it won't be the first man's *lion carcass* I have had to deal with. Some one may say, that this was the way the honey was put up that was found in the ruins of Pompeii, and I will find you a man who will say that all the honey he ever saw, that came from those ancient ruins, was labeled "PERRINE, CHICAGO;" but I have reason to believe he was joking.

The honey houses that "sprang up like magic," are the identical ghosts at which Mr. B. was frightened, and from which he has not yet recovered, although they all vanished "like magic." It is claimed by him who founded and built up this business, that it is the original and ONLY HONEY HOUSE—all others were, and are, magic imitations. When you are badly scared at something you don't understand, just "clamor," make a big noise, and it will reassure you, and you won't see the hobgoblin any more.

Mr. B. says "honey dealers will prostitute fancy comb honey in boxes and frames, if they have it in their power, and will so have their revenge." Revenge on whom? Does he confess to having done this himself, and is he afraid that others have learned his trick, and will do it themselves and he lose his trade? I could give names of honey producers having reported to me of other honey producers feeding sugar to make comb-honey, and one who fed such common brown sugar that he lost his little retail trade at home; and a short time ago I called upon a very prominent bee-keeper and took tea with him, and in the course of the conversation at table, spoke of feeding, and he stated that he had fed a whole barrel of sugar to one hive as fast as they would take it in; just then he looked hurriedly at his wife, and changed the subject; he did not ask her what she stepped on his toes for—*he knew*. That hive must have swarmed once a week through the season, or have made a deal of box honey.

Every one interested in comb honey, says: "do not use foundation for surplus honey." I suppose I should properly join in that same cry, as it will affect my trade in jars. I would here state that I can make light foundation with *ten square feet* to the pound, or anywhere down to *five square feet* to the pound; the lighter in weight the shallower the cell. I don't pretend to know which is best; "you pays your money and you takes your choice." I would advise all to use foundation sparingly, this year, or rely on the experiments of others until it becomes a fact whether or no it will pay to use them or not, either in surplus boxes or brood chamber.

Since Mr. B. asks the question, I will say there is a *lie* mixed up somewhere in his figures. I will fill the frames of an ordinary Langstroth hive with less than one pound of foundation, but probably it would take a full pound to furnish wax to complete the cells.

This is my eleventh year in the honey business, and I have simply sought to supply the demand for honey in its various forms and conditions. I have no choice between selling liquid or comb honey, in boxes or jars. I sell liquid honey in large quantities, at home and all over the states—sell some small box honey to the city trade only—but do not ship any, as it will not ship safely. I cut immense quantities of comb honey to pack in glass jars, which I guarantee to ship safely, and pay for all that arrives in bad order.

Mr. B. had to sell his small fancy box honey shipped to this market, to cut into jars the past season.

I had an order a few days ago, from a large jobber in canned goods, for comb honey in jars, who has bought a great deal of my goods in past years; but two years ago a "honey producer" induced him to believe that his goods were purer than mine, and sold him a small stock of jar honey. It was not neatly put up, and sold slowly, and, of course, soon candied, even sooner than mine, (*being purer*?) and was unsalable. I always exchange fresh goods for candied goods, but this producer would not do this and so they were stuck and would not buy any goods of me until they were sold which had to be done at a loss. The house wrote that they had "quit fooling around" and would give me their orders as usual hereafter. The same thing occurred to a large grocery jobbing house here in the city a short time ago. The jobber prefers jar honey because it will ship safely and box honey will not. The retail grocer prefers it because it does not break down

and leak. It is all right till it candies; then it is all wrong, or nearly so. Some prefer candied honey and buy it, but if it would not candy, the trade could be extended ten fold or possibly an hundred fold.

I stencil on each side of every case of my goods that I ship "THESE GOODS SPEAK FOR THEMSELVES."

I have sent sample lots of a few cases each, all over the country to be paid for if satisfactory, and have thus increased my trade year after year.

I do not believe it occurs to bee-keepers generally, how little I care whether they like my manner of putting up honey or not, as I do not solicit orders from them. I have to cater for an altogether different people, who know little or nothing about honey, and I have to put it in such shape as will meet the readiest sale and give the best satisfaction to the consumer. Of course you can see that it would be the greatest folly to put up something that would not give the most eminent satisfaction. C. O. PERRINE.

Chicago, Ill.

For the American Bee Journal.

The Ripening of Honey.

In reply to the remarks in A. B. J., and *Gleanings* of last month, of several of our brethren, in regard to the "ripening of honey," allow me to send you with to-day's mail a jar of clover honey of my own crop of 1874. We had no honey crop last year. You will oblige me by giving to our friends your own idea of the *state of ripening* of this honey. I have thicker honey from the same season, but it is in larger jars and not so easy mailed. All of my honey was extracted when the combs were filled, and not in a single instance did I wait for the cells to be capped. On the contrary, cells were only capped when my time would not permit to extract sooner. Opening, a few weeks ago, a couple of cases of 2 lb jars which stood in my store ever since the harvest of 1874, I found almost every jar ungranulated. Honey was coming in slow, two years ago, so that we had a chance of leaving it in the receiver a week or two for evaporation. From the receiver we bottled it and packed it in cases (with sawdust.) Our chief aim, in the production of honey, should be quality, and our next quantity. I should not wish to be understood that I consider it an improvement to the quality to extract the uncapped honey, but I do believe that it is not in the least detrimental, providing we give the honey a chance for evaporation after it is extracted. It is very important to the trade to keep each kind of honey separate, and this can hardly be done if we extract our capped combs only, excepting it be during a heavy flow of honey. Several of my friends who furnish me with honey, assure me that they never extract any before their combs are capped. Yet some of their honey is very thin, and some has even a sour taste about it. I could prove this to you by sending you a sample of one. I am sure my friend is sincere in his assertion, as I know him to be a good man. My own honey may be thin some seasons, like that of other parties, but I never found this sour "twang" about it. If I was not particular about keeping separate each kind of honey, I should very likely allow the combs to be capped before extracting. But, capped or uncapped, all extracted honey should stand in open vessels for evaporation, and all impurities which will arise to the surface should be skimmed off carefully before it is barreled or jarred. From those parties who work contrary to this rule, comes our thin or sour honey principally. Such, at least, is my experience. I am perfectly willing to modify my opinion if I am convinced of being wrong. CHAS. F. MUTH.

[A later note from Mr. Muth says that by mistake one of his young men sold the jar of clover honey which he meant to have sent, and so he has sent us a jar of honey of the crop of 1874, but not clover. So far as quality is concerned, we have tasted better honey than the sample sent. It is thick and nice in appearance with no evidence of having ever soured in the slightest degree, and there is nothing to make us suppose the flavor any different from that got directly from the flowers.—ED.]

For the American Bee Journal.

Albino Bees Again.

In the March number is an article headed, "Albino Bees," in which Mr. Staples tried to misrepresent that stock of bees. Any intelligent person who will read the article will see that the writer contradicts himself. He says he does not like "misrepresentations;" now, I do not like to see any person or any thing misrepresented.

He tried to destroy the reputation of the Albinos from selfish motives. Because he has failed to accomplish anything with them, does it follow that every one must fail? Is he the *Solomon* of the apiary? Are there not others in the business who have studied it as closely as he? Is it because he has failed that he would become jealous of one who has succeeded? If he "dislikes misrepresentations from the very heart," why does he try to misrepresent another? If I am to judge of his character from the tenor of his article, I would infer that he is egotistical, and

seems plainly to say, that because I have failed no one else can succeed. His language would seem to indicate that he considers himself as standing at the top of his profession and all other bee-keepers must "crawl at his feet." The writer says in one place that he has never reared one pure Albino queen, and then says that he never raised one which did not become a drone-layer after the first season! How are we who read this article to understand it? Is it not a flat contradiction? He cries "humbug," and at the same time tries to invent one to accomplish his selfish ends. He attempts to heap epithets upon one of whom he is jealous, simply, because that one has sold a few queens to some of his customers.

He seems to understand some tricks in queen-rearing, perhaps, has practiced some of them.

It has always been my custom when selling queens to guarantee them. I have sold queens to all parts of the United States, and have never yet taken any advantage of any one. If I do sell queens to any of his customers is that any reason why he should attempt to slander me?

It seems to me that if persons attempt to call a thing a humbug, they should understand it thoroughly before so doing. But the only reason he can assign, is that he has failed to raise Albino queens.

The American people generally purchase where they can get the most for their money, consequently they buy my pure Albino queens—"the best in the world." D. A. PIKE.

Smithsburg, Md.

Notes & Queries.

CONDUCTED BY CH. DADANT.

Would it be well to disturb the bees when at work in boxes; by removing the boxes to extract honey from brood chambers?

ANSWER:—Yes; you can remove the boxes, and extract honey, without inconvenience. But afterward, the bees will put their newly-gathered honey in the brood chamber first, and ten to one, if you have made a large room in the brood chamber, they will take the uncapped honey from the boxes, to fill the brood chamber.

On April 20th one of my very strongest stocks with as bright comb as you ever saw, plenty of pollen and uncapped honey, and a large and yellow queen, appearing as in the height of laying; there were no signs of queen-cells as though a queen had been raised. I gave another comb of uncapped honey, returned in eight days, and finding no eggs, drone nor worker, I killed the queen. There is not a drone in my apiary. Was I too hasty? Should I have kept her for further experiments?

A. B.

No! There are drones now, if not in your apiary, some are in your neighbors' apiaries. We have plenty of them already.

What use can be made of the contents of a hive depopulated through dysentery, and left full of partially mouldy combs, with some honey? When you feed bees honey in the comb, is it any advantage to uncap it? MRS. HELENA MADSEN.

You can use the mouldy combs, if they are not rotten, in putting them in your strongest stocks, one comb at a time; or by putting in the hive a strong swarm. But the first plan is the best.

There is no advantage in uncapping the cells of honey, the bees will uncap them according to their need. Yet if by feeding you desire to excite breeding then it is better to uncap the combs.

Let me know through the JOURNAL how I can prevent getting hybrid drones.

REV. E. LEWIS.

Put drone combs on your best pure Italian colonies, and take out all drone combs from your impure ones. Raise your queens in a season when there are no drones, *i. e.*, before black or hybrid drones are hatched, or as soon as they are killed by bees, and if you have stimulated your drone raising colonies they will produce drones to fertilize your queens.

When shall I cut Alsike clover for seed—the first or second crop.

A. COOPERRIDER.

Cut after the first crop.

What should be the distance between the walls of a hive and the ends of the frames, also between the lower part of frames and the bottom board? How much space between the sides of hive to contain 10 frames? I am making some hives 18⅜x12½ inches, 11⅛ inches deep. I put 9 frames in a hive, I used to put 8 frames in 12 inches, but think it makes them too far apart. My frames are 17¾x10½ outside, and 10x17 inside, ends of frames ⅜ in. thick, top bar 5-16, bottom bar 3-16, space top, bottom, and ends of frames 5-16. J. F. P.

The distance between the outside ends of the frames and the walls of the hive should be from ¼ to ⅜ of an inch. Between the under side of frames and bottom

in our apiary is about ⅜ of an inch, more or less.

We think that 1½ inches is the right distance from centre to centre for the frames; a little less will do, but you experience more difficulty in taking them out.

I am a novice in bee-keeping, yet anxious to learn, and am taking your interesting BEE JOURNAL. Query 1st. I have a colony of bees, which I have supposed to be pure since introduction of queen last summer, but there are some peculiarities about the worker bees that create in my mind a suspicion of impurity. The worker bees all seem to have three distinct yellow bands, yet there are many of them with the whole of their bodies, behind the yellow bands, perfectly black, while all the others are uniform in color and have all the other marks which indicate purity. Is it common among pure Italian bees to have such variableness in the same hive? J. W. MCNEIL.

The worker bees whose bodies behind the yellow bands are perfectly black are the old ones who seem darker than the others because they are deprived of hair.

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1. Is a frame, 8 inches deep by 16, in the clear, deep enough for out-door wintering in Michigan?
2. Is a frame 10x16 in the clear, better? If so, how many frames to the hive?
3. Is a frame 11x16 too deep? If not, is 8 frames enough for the Langstroth hive?
4. What size and shape frame is best, and how many to the hive? W. A. M.

I cannot answer the first question, as I never have lived in Michigan, yet I believe that bees, in the North, need a deeper frame than in the middle or Southern States.

The frames which have given us the best results, so far, are the Quinby frame, 11 inches by 18—8 or 9 frames to the hive.

If I was to begin anew, I would make my frames 16 inches long by 12 or even 14 inches high, especially if I lived in Michigan.

I use here hives wide enough for 11 Quinby frames. By means of one or two partition boards I reduce the hive to 7 or 8 frames, for winter, filling the empty spaces with dry leaves, chaff, or dry moss.

When the honey harvest begins, I put, outside of the partition boards of a few of my best stocks, one or two frames filled with dry combs, and I examine these combs every day. As soon as bees begin to bring honey in these outside combs, I give plenty room to all my colonies, either at side or above, or both, to prevent swarming.

Is there anything known that will remove the glue from the hands?

A. B. MASON.

Yes! alcohol or spirits of turpentine will remove bee glue instantly. We prefer alcohol, for its odor soon disappears.

Why will not bees eat candied honey? I have several times offered this candied honey and they only eat out what liquid honey they can, and reject the rest. I have placed a card containing candied honey in a hive, and then on looking, after a few days, would find the grains in the bottom of the hive. C. H. WHITMORE.

Your bees have not been able to eat your candied honey because you gave it in cold weather. In summer they would have eaten it all, for heat is necessary to melt candied honey.

How shall I hive my bees? When they swarm naturally, sometimes they stay in the hive an hour or two at a time, and sometimes will not be lead. C. M.

The first swarm led by the old queen remains generally in the hive in which it is hived. The queens of the second swarms, being unfertilized, leave the swarms to hunt for drones; then the swarm follows. It is advisable to give all the swarms a comb of young brood as soon as they are hived. The bees, finding that they have the means of raising a queen, will not leave the hive. It is better not to let the bees swarm naturally, but to swarm them artificially.

☞ The Southern Kentucky Bee-keepers' Association will meet at Smith's Grove, Ky., on L. & N. R. R. on June the 1st. We expect to have an interesting time. Would be glad for all who can come to be with us. We want communications on bee-culture. We want for exhibition, bee hives, honey-boxes, extractors, and uncapping knives, bee veils, queen cages, bee-feeders, and any and every thing in the line of bee-culture will be received and put on exhibition and sold, or returned as may be wished; we sold every article exhibited one year ago. A committee of arrangements will provide homes for all who come. We hope our brother bee-keepers will give us a lift as we are working for the advancement of scientific bee-culture. N. P. ALLEN, *President.*

Biographical.

For the American Bee Journal.

Warren B. Rush.

Warren B. Rush was born April 17th, 1846, Morris Tp., Greene County, Pennsylvania. At the age of ten years, his parents removed to Simpson's Store, Washington County, Pa. At the age of sixteen, he entered college, and remained three years. In 1865, he took a full course in Duff's College, Pittsburgh, Pa. After eighteen months of travel, he began the study of pharmacy, serving as an apprentice in a drug store one year, in West Va.; one year in Pittsburgh, Pa. In 1864 (Jan.) he began the regular study of medicine. After attending one full course of lectures, he was elected apothecary to the City Hospital in same city, (Philadelphia, Pa.) 2y but after three months, his declining health succumbed to nervous prostration, and he was brought home without a hope of recovery, June, 1871. He continued his studies until April, 1874, when his health seemed too feeble to continue, and he gave up the idea of ever practicing.

He obtained his first hive of bees (a hollowgum) in 1857. In 1863, he bought a double walled Langstroth hive. In 1864 made another one, and transferred the bees from the gum. He had never heard of the idea of transferring at this time, but wishing to study the habits of bees, he conceived the idea of putting them in the frames. From this time until 1871, (when he returned from the city to his father's) he began the regular study of "*the Bee.*" He did not keep bees for profit until 1874. He lost nine hives by being robbed, and ruined some by experiments, (about six) but not one by disease. This year being the third year that the honey had failed, he sold out, and in April, 1875, moved to Pointe Coupee, Louisiana, for his health, and to pursue his occupation of raising bees and honey. He devoted much time to the study of the difference between bees *North*, and bees *South*, as his motto is, "know what you are doing," and you will succeed. He has taken a partner, and is beginning on a firm basis. They are progressing finely, with 110 hives to start with, and as many more engaged. He is a strong advocate of "*extractors*," and has learned the secret of raising as fine honey as any in America. Has used some different kinds of hives. Langstroth was his first, put it by, but now has finally adopted it again, and says there is none better. He makes it two-story, without the honey board or strips around the sides; second story same as first, each ten frames, the cover fitting either story.

W. B. Rush.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

Vol. XII. CHICAGO, JULY, 1876. No. 7.

Our Exchanges.

GLEANINGS.

Is as usual out in good time and in good shape, but we cannot resist the temptation to poke a little fun at Novice, who is so free to criticize others, for advertising amongst humbugs and swindles Gould & Gillespie, and J. K. McAllister & Co. in the year 1786. Why not make it a centennial affair by going back ten years more? It may however be well to look out in this century for these men.

HIVES.—Novice was formerly a staunch advocate of the Langstroth. Then he tried various things in the hope of settling upon some standard size of frame which all bee keepers would accept, as a compromise between the most shallow and deep; but a uniform size seems now to be abandoned by most of its advocates as a thing hardly attainable, (although they have just commenced to agitate it in England). Novice now says: "We do believe the L. frame is very soon to be the one of all others." He advises making hives with the heart side of the timber outwards as the more they try to warp the tighter will be the hive.

FINDING QUEENS.—G. M. Doolittle says: "If the time of day is from one to three o'clock, as a rule the queen will be found on one of the outside brood combs, no matter where the bees are thickest; if from seven to nine o'clock in the morning you will find her on the center brood comb, or if 6 to 8 combs are filled with brood, on one of the three center brood combs. The principle is that at from 1 to 3 A. M. the queen is at the outside of the brood nest, then returns to the center, getting there about 8 A. M., and then continues on, arriving at the opposite outside at about 2 P. M., then back again, getting on the center comb about 8 P. M. Thus she traverses the whole brood nest twice every 24 hours. This is when the colony is in its normal condition." We should be glad to hear whether others have verified these conclusions.

THICK COMBS FOR THE EXTRACTOR.—R. L. Becktell asks about these and Novice replies: "We have used thick combs with the extractor and have frequently advised them. At the time we transferred our American hives to the Langstroth, we saved all the drone comb and put it in frames by itself, and have almost every season found these drone combs much the most convenient when we succeeded in preventing the queen from using them. We can generally succeed in doing this by placing them at a considerable distance apart, being careful not to get them so distant *at first* as to allow them to build a small comb in between. As the cells get lengthened we can put them farther apart, and we last season had one such comb weighing, when filled, 11 lbs."

CHAFF.—This is Novice's latest hobby. Not having succeeded to his satisfaction with the House Apiary, he is now trying oat chaff packed on all sides about the hives. We shall look for the result with interest.

COMB FOUNDATION.—He says: "We are happy to inform our readers that we not only have laid aside the movable type, used by our friend Wagner, but have dispensed entirely with beeswax; paraffine being much cheaper, whiter, stronger, and more rapidly worked by the bees. The idea that the bees will not reduce the thickness of the bottom of the cells is entirely exploded; no argument is needed, for you can, any of you, test the matter in your own hives."

BEES AND FLOWERS.—A London paper says: "An interesting experiment is being made in the shipment of two nests of humble bees, which have just left Plymouth for Canterbury, New Zealand. The principal object aimed at in the introduction of these insects into the antipodes is the fertilization of the common clover, the pollen of which the common bee is generally unable to collect, while the 'humble bee,' having a larger proboscis and being much stronger, is able to reach sufficiently deep into the flower to collect the fertilizing dust. It is hoped that by this means the plant will be more generally fertilized, and its cultivation largely extended in the colony. The bees which have just left England for the antipodes were in two separate nests, which had been procured by Mr. Frank Buckland, and packed in a suitable box, where they were supplied with everything necessary for the voyage, including honey, fa-

rina, water, &c. They are very fine specimens of the humble bee. The exact number is not known, as many of the eggs are not yet hatched. They are placed under the care of Mr. John Hall, a member of the council of New Zealand, who takes a stock of ice for the purpose of keeping down the temperature of the nests while passing through the tropics."

BEE-KEEPERS' MAGAZINE.

COMB FOUNDATIONS.—A cut is given in *B. K. M.* of a foundation machine, and if we understand it rightly, this machine makes only the *edges*, or about two cells in width at a time. If a sheet of wax has impressions made only on the *edge*, we should not value it very much, and if the idea is to run the sheet through the machine several times, making a couple of cells in width each time, it seems to us the labor would be great, with danger of not having the rows of cells correspond.

An article is quoted from the *Bienen Zeitung*, for January, 1859, to show that foundations were made at that time, two years prior to the issue of the Wagner patent.

Mr. H. A. Burch enters an emphatic protest against the use of foundation as starters in honey boxes or for any surplus comb receptacles.

MIGNONNETTE.—J. E. Johnson says: "I really believe that an acre of mignonnette will amply supply one hundred colonies of bees abundance of work, with nothing else to feed upon."

COLOR OF QUEENS.—N. Levering says, in *Los Angeles Herald:* "We are asked by a correspondent why the color of queens from the same stock varies so much? We think a solution of this interrogatory rather difficult. For some time we have thought that cool weather had something to do with it. In the State of Missouri we had several queens from pure Italian mothers in mid-summer and late in September and the first of October, and found those reared late, when the weather was cool, much darker than those reared when the weather was warm. The first reared was a bright, light yellow, the latter approximating a black. We are now rearing queens from pure Italian, which are of a dark or leather color—the ordinary color of all imported queens from Italy or Germany that we have ever seen. Their progeny are of a bright, light yellow, some of them with slight dark rings round the body, while occasionally we find one from the same litter of bright colored queens, quite dark. We are now somewhat inclined to doubt the climate theory, here, where the climate is so regular and even, unless it be the cool evenings, and that some of the cells are better covered and receive more heat from the bees than others, and those receiving the least heat produce the dark queens. Whether it is in the degree of heat they receive in hatching, change of climate or pasturage, remains a subject of speculation. We have come to the conclusion that the color of queens is about as changeable as high life in Washington.

FOUL BROOD FOR SALE.—D. J. Bardwell gives warning in the *Omro* (Wis.) *Journal*, that a lot of bees, hives, etc., affected with foul brood, are advertised for sale, by a firm of Berlin, Wis.

LUBBOCK still insists that bees are not of a sympathetic nature. And yet this gentle insect, with the buff mainsail and red-hot rudder, has frequently brought tears of sentiment to our eyes.—*New York Her.*

BEE WORLD.

TWO QUEENS IN A HIVE.—Will M. Kellogg says: "I still have the two queens in one hive, found on the 6th of April. The young queen, unfertile, has no wings at all, but seems spry as a cricket. The old queen keeps right on with her work and never seems to mind the young one. Who can beat it? I have never heard of two queens staying so long in one hive,—nearly six weeks now."

HONEY PRIZE.—Dr. E. C. L. Larch, proposes a $100 prize, at the St. Louis fair, to decide the question where the best honey is obtained. We do not doubt his good intentions, but we somewhat doubt whether a matter purely of taste, could be satisfactorily settled beyond question, by any tasting committee. It might so happen, that three men might pronounce a sample best, which the majority of people would place second. One may taste an entirely new flavor and not particularly like it, but on becoming accustomed to it, prefer it to all others. On the other hand, a flavor may strike one at first as being superior, but not bear acquaintance well. A $100 prize might do something toward it, but would hardly finally settle the question.

BRITISH BEE JOURNAL.

The weather seems to have been very adverse in England, during the month of May, and many losses are reported.

The movable comb seems not to be in so common use in England as here, common box hives and straw skeps still being used. Indeed an advertisement, illustrated with a cut of a straw hive, with flat top, appears in the *British Bee Journal*—yes, two of them.

We are somewhat under the impression that there are more amateur bee-keepers in England than here, keeping bees for the love of it, but fewer men engaged in it as a money-making business, than are to be found here. The *British Bee Journal*, un

der Mr. Abbott's able management, is, however, doing a good work, and we must look out or our English friends may yet lead us in both respects.

QUEENLESS STOCKS.—The *British Bee Journal* advises to wait "until drones appear, and then make the respective occupants of a queenless and a full stock, change their tenancies. Each set of bees must be kept on its own stand, and the hive of each given to the other; the artificial swarm will then quickly fill the broodless combs of the queenless bees, while the latter will act as heat-producers in the others' brood-combs, and prevent the possibility of loss through sparseness of bees, a casualty too common when driven stocks have been removed from their original stands. The young bees, which will hatch by hundreds daily, from the combs of the driven bees, will speedily raise queen cells therein; or, if possible, a queen, or queen-cell, may be given to them, but in either case, we think the bees of the queenless stock will have been put to the best possible use."

Comb Foundation.

We obtained some comb foundation and have it on trial at our own apiary. The bees take to it readily, and the only question about using it in the body of the hive is the expense. As we have before stated, it will depend on the circumstances of each individual case as to what price it will be profitable to pay for it. Perrine has made no changes from his prices first advertised—$1.20 to $1.00 per pound for five to one hundred pounds, according to quantity—although he thinks he will make improvements in rapidity of manufacture, and reduce five to ten cents per pound. This for pure beeswax.

King & Slocum say they can furnish the pure beeswax foundation at about $1.25, charges paid, and when mixed with other materials at $1.00.

We don't know Novice's price for pure beeswax, and are a little mixed about his prices for the "mixed" article. We think it is 75 cents for the yellow, and he hoped to be able to furnish the white at 75 cents. His white foundations are two parts white wax and one part paraffine. Yellow, one part yellow wax and three parts paraffine. From experiments made, he thinks pure wax would not answer the purpose at all. On the other hand, Perrine says he has not yet been able to make paraffine work.

We are a little surprised at the price of King & Slocum. As they state that each one should be able to make his own foundation at a cost not to exceed 40 cents per pound, why should they not be able to sell it at less than $1.00 per pound?

We got some white foundation of Novice. It appeared rather brittle, but this was partly, perhaps altogether, owing to the way in which it was packed, being rolled up in newspapers and sent by mail. It was much broken. We are not sure but we will have to give up some of our prejudices against paraffine if one-third of the material in this was paraffine. We chewed a piece of it for two or three hours and could not discover any taste whatever, so *perhaps* it is just as good as pure beeswax. We do not forget the disclaimer of one correspondent, that beeswax is not honeycomb, and are ready to approve or condemn the use of foundation for surplus according as the evidence may decide. We still think that if it cannot be used for surplus it will not be nearly so important an acquisition. We should have said in the proper place that we tried chewing some white foundation of Long's that had a decidedly unpleasant, bitter taste, and another specimen that had a greasy taste, and lost entirely its tenacity on being chewed.

We obtained some yellow foundation from Perrine which seems to work well for the body of the hive. One frame of it had eggs in the cells within about twenty-four hours after being placed in the hive. But all the combs except one were taken away from the colony. One frame had in it a depth of about three inches of foundation, and the bees built the next three inches of the same yellow color. Did they carry down some of the wax from above? The height of our ambition had been to fill a frame entirely full of foundation, fastening it on all four sides so that there could be no question about our having the frame full of worker comb and perfectly straight. On trying it we found it was a failure so far as being straight, for after the bees got to work at it, it bagged to one side. We think the best way is to leave a space of about a quarter of an inch at the bottom and at the two sides. In fastening into the frame we succeeded best with a mixture of beeswax

and rosin. This we melted and dropped on with a spoon, letting it *run* along the edge of the foundation which immediately fastens it to the frame.

New Use for Larvæ and Pollen.

We have some original ideas from Mr. Alfred Chapman, of Hancock Co., W. Va., which, although they will hardly be accepted as correct, have at least, the claim of novelty. Speaking of rearing queens, he says:

"When a colony of bees become queenless, they select a young grub, and it is my experience, they take other young grubs and break them, and suck the substance out of them and fill with this the upper end of the queen cell in sufficient amount for the abdomen of the queen to lie in while maturing, and that larvae being around the abdomen of the young grub queen is a feeder of substance, and that develops the organs of nature, or her whole nature is changed from that of a worker to a queen."

His theory for explaining how an unfertilized queen can lay eggs that will hatch out drones is as follows:

"This substance of the broken larvae stowed in the upper end of the queen cell is the nearest of mother's nature of anything to lay around the young queen while maturing, and her nature being fed from this principle, she becomes fertilized from the pollen of the flowers, the same as one flower is fertilized from another, and from that fertilizing principle she gets her power to mature the drone egg without impregnation."

ENTOMOLOGY.—Prof. A. J. Cook of Michigan, and Prof. C. V. Riley of Missouri, have issued their State reports of noxious, beneficial, and other insects, and have each sent a copy to this office. They contain many very important facts and experiments, which will be of interest to the people of those states in particular, and of the whole West in general. Prof. Cook's contains 48 pages, while Prof. Riley's has 190. Both are illustrated and nicely printed..

THE METEOROLOGIST.—This is the title of a new monthly by Prof. John H. Tice, of the United States Weather Bureau, St. Louis, Mo. Our readers will remember the small item we inserted on page 117 of our May issue, predicting "cold and wet weather," and how literally it was fulfilled. Prof. Tice's theory is that atmospheric disturbances are caused by the equinoctial phenomena, which can be foretold with certainty, and that these affect the entire globe. So far, the theory has received marked indications of correctness, and we shall be more and more interested in Prof. Tice's *Meteorologist*, as we learn further scientific facts. It is published by Tice & Crossman, at $2.50 per year, 307 Locust street, St. Louis, Mo.

☞ The season is over now for sending tulip trees. Those wishing them for next season should send so as to have them shipped in November. They go safely by mail.

I wish a good situation as bee-keeper, —the South preferred,—to commence in November. I understand nursery business as well. Am a Baptist minister, and would like to get near some church without a pastor, or in some destitute neighborhood. Address, ROBERT T. JONES,
Flat Rock, Henderson Co., N. C.

☞ As many are enquiring how to introduce queens, we here give the directions as printed in Nellis & Brothers' circular:

"Have tried many ways of introducing and consider the following *much* the best. Remove the old queen and in 7 days (not longer than 9), cut out *all* queen cells, close up the hive, roll the Italian queen in honey and drop her into the hive, through a small hole. Do not disturb the hive in 48 hours. If directions are followed, this method always succeeds. Many object that stocks should not be queenless so long, but we argue that very little is lost. If while the stock is queenless, they fill the hive with honey; extract until the queen has plenty of room. She will then rapidly fill it with brood. If honey comes in fast, extract again in 4 or 5 days. In this way she will soon be very prolific. By other methods her privileges are often disputed, and she is persecuted until she loses her fertility or life, unless the owner takes active measures for her safety."

☞ Last spring M. M. Baldridge with his brother went to Alabama to take charge of an apiary there. We regret to learn that on the 16th ult., after a week's illness, his brother died of congestive fever. He was a promising young man and leaves a large circle of friends to mourn for him.

Honey Plants.

QUESTIONS ANSWERED BY PROF. BESSEY, IOWA STATE AG'L COLLEGE.

I send you a specimen of a plant that bees in our part of the country work on from the 10th of September until November. They leave buckwheat for it. Please let me know if the honey from it is of a good quality; it appears nice as far as I am capable of judging. I would like to hear a good report from it, as it is a never-failing crop with us. L. W. LEWIS.
Page Co., Va.

The plant referred to is a species of Aster or Starwort. On account of its many flowers it has received the name of *Aster Multiflorus*. It may very properly bear the common name of the Many Flowered Aster, or Many Flowered Starwort. All the Asters are good honey plants, and as they come into bloom so late in the season, and continue so long, they fill a place unoccupied by any other, with the exception of some of the golden-rods.

Here is a twig of a plant which seems to be excellent for honey. It commences to blossom in May, and the bees work on it from morn till night, in wet and dry weather, and it will doubtless continue to blossom on till frost. There was only a little of it growing along the fence by the roadside, and I never noticed it until last year. I would like to know the name of it. It grows from two to three feet high, with many stems from the same trunk; the rest of the description you can see from the specimen. T. W. LIVINGSTON.

The fragment of plant belonged to the Common Motherwort.(*Leonurus Cardiaca.*)

The sample of weed I send you grows from 3 to 4 feet high; it smells like honey; hundreds of acres are covered with this weed during the summer—enough pasturage for 5,000 stands of bees. H.

This is a species of *eupatorium*. It is a near relative of white snakeroot, and as it has no common name, it must be known by its scientific one—*Eupatorium Serotinum.*

Enclosed is an insect—is it a bee-killer? Also something that my bees are depositing at the entrance of the hive. I never saw anything like it before.
Paoli, Ind. B. M. LINGLE.

The enclosed insect is, as you rightly surmise, the bee-killer. The specimen was a magnificent one, being fully an inch and a half long, and having wings nine-tenths of an inch in length. When living it no doubt caught and killed many a bee.

The material carried out and deposited at the entrance of the hive proves, upon microscopic and chemical examination to be wax. Its odor is unpleasant, suggesting the idea that it may be excreted, undigested wax which had been eaten by, possibly, the worm of the bee moth. Possibly, also, it may be foul wax which the bees cut away and carried out. Its finely divided state favors this idea.

I send you several cotton-wood leaves; on the underside of which you will notice small excrescences or secretions. Our bees gathered "*pollen*" therefrom for nearly a month, last fall. What is it?
Los Angeles, Cal. JNO. R. BRUCK.

The growths on the backs of the cotton-wood leaves are of Fungoid origin. To students of Fungology they are known under the name of *melampsora populina*, or "Poplar Brand." They belong to the same great group of the Fungi, as the Rusts, Smuts and Cluster Cups. Is our friend quite certain that the bees really gather and use this Fungus instead of pollen? If true, it is an interesting fact. Will he not examine into this point with the greatest possible care, and report the result of his observations?

James McG. Fraser, of San Diego, California sends a specimen of "a honey producing wild plant" which he says "grows about three or four feet high in bunches." He states further that it is very abundant in San Diego County. He asks for its name through THE JOURNAL.

It is known as *Hosackia glabra.* Torrey. It is a near relation of common clover, and like it has tri-foliate leaves; the flowers which are yellow, are in small clusters along the flowering stem. We know nothing personally of its honey producing qualities, but give it on Mr. Fraser's authority.

Inclosed is the sprig of a small tree that grows here, known as yellow wood. It yields more nectar than any other tree or plant here. Its foliage is handsome, and its bark smooth and white. It is one of the most desirable trees to transplant either for ornament or honey. I could furnish scions or seed in any furnish very reasonably. T. E. SHELTON.

This sample is from what is known as the alder buck-thorn (*Frangula Carolini-*

ana). We know nothing of its honey-producing value more than what Mr. Shelton states. It could not, in all probability, be grown in the North as it is too "warm blooded." Do our readers know anything more of it?

☞Since our last issue, we have spent a few days with the Apiarists of Kane county, Ills. We found them in good spirits, with favorable prospects for large increase and heavy yields of surplus. To our friends, George Thompson, of Geneva, and J. M. Marvin, of St. Charles, we are indebted for an excellently arranged programme well carried out, by which we (the trio) visited nearly all the bee-keepers of that county, and inspected their apiaries. With Eugene Otis, of Batavia, and J. Oatman & Co., of Dundee, we spent a very pleasant time. At St. Charles we met friend Wheeler, editor of the St. Charles *Leader*. As a county newspaper the *Leader* is a PRODIGY—and shows what earnest men can do in that line—though but few ever reach one-fourth of its proud success!

☞A bee-keeper of Northern Illinois says that king birds do not eat bees—that he has watched them, and has often seen them catch the bees, suck out their honey, and then spit out the bee itself. He avers that it is the honey only that they are after. Let others who have watched them send us the result of their observations.

HILL'S WINTER HIVE is on exhibition at our office; so arranged that the cap or cover in winter may set down entirely over the hive, thus making a double walled hive for out-door wintering. In the section boxes for surplus is a neat device for starters. The upper bar of the frame or section has a slit about three inches in length cut through by a very fine circular saw, and a thin plate of wax is let down into this, and the upper part melted down to hold it in place. Also

HILL'S HONEY EXTRACTOR. The frame is made of gas pipe, so the entire machine weighs only 12 pounds. It has only three legs, so will not rock on uneven ground.

PEABODY'S EXTRACTOR stands in our office, and we have had one of these in use for years. For anything we can see, the one we have is just as good as the day we got it. It is easily cleaned, as the wire cloth frame lifts out, and the rest is as easily cleaned as a wash boiler. The price has been reduced to $10.00.

Secure a Choice Queen.

We will hereafter send a choice tested Italian queen as a premium, to any one who will send us *five* subscribers to the AMERICAN BEE JOURNAL, with $10.00. This premium, which gives a $5.00 queen for five subscribers, will pay any one for taking some trouble to extend the circulation of the AMERICAN BEE JOURNAL. Premium queens will in every case be warranted.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send post-paid, a copy of A. J. Hill's. work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

☞ Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

HIVES.—We have made arrangements so that we can supply Hives of any kind, and in any quantity, on the shortest notice—either complete or ready to nail together.

COMB FOUNDATION for sale at this office, as well as hives, extractors, and other apiarian supplies, at the regular market prices.

WHEN your time runs out, if you do not wish to have the AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

SEND POSTAGE STAMPS:—As silver takes the place of fractional currency, and something convenient to enclose in letters for small amounts is needed, we suggest postage stamps of 1 cent and 3 cent denominations. If folded carefully to about the size of the envelope, they will come even more securely than currency, and our business demanding large amounts of stamps, will render them as acceptable to us as fractional currency.

Correspondence.

For the American Bee Journal.

My Experience with Feeding.

The printer made a mistake in my letter on page 78, March No. In line 17 they have "*foul* center combs," instead of "four center combs"; there was nothing foul about them, they were nearly as bright as when built. If you will look over my article on page 94, April No., you will find that Mr. Sargent's bees have been in three weeks instead of two, as stated in your remarks; and the shortness of the time that C. E. S. had had his bees in when he asked for the instructions, is the very reason why he should have been told to put them on their old stands. Mr. Elwood is certainly mistaken in his statements at the North-eastern Bee-Keepers' meeting, about bees not using propolis till late in the season (in this section at least). I had ten late swarms hived in old box hives last fall, with two one inch holes in top of each, according to Quinby, before he took to frame hives, and about the first of April I found several of them were getting quite light, and thought I would try A. I. Root's crushed sugar plan of feeding; so I made boxes of plastering lath suitable to cover one row of the holes, and gave each hive two ounces of sugar, laying it over the holes and on the spaces between them, and covering the whole with the box; four days after I examined them and found that seven of the hives had cleaned up all the sugar; two had a little left, (which were the heaviest of the lot), and the other had not eaten any that I could discover, and this was the one spoken of on page 78. I suppose they killed their drone-laying queen about the time they did the drones, as they quit carrying meal about that time, and I have found that queenless stocks will not carry meal. I had seven of them in April, none of which carried a bit of meal. But to return to the sugar, I filled up all the boxes again, and the seven cleaned theirs out as before, the other two eating but little. I filled the seven boxes every few days, till the fruit trees began to blossom, and they quit eating, and I did not look at them till May 1st, which promised to be a very cold and disagreeable day. I found the boxes all glued fast to the top of the hives, and the sugar all gone, except the two heavy ones, and they had glued up every crack around the sugar that that lay over the holes, so that I think they had them air-tight. I filled up the boxes again, and they have eaten it all out and are ready for more. I think they have bred up very fast, as they seem to be getting very strong, some of them having their combs entirely covered when the hive is raised. I succeeeed in wintering two young queens in one of N. C. Mitchell's "rough and ready hives," that I had used for rearing queens through the summer. They are made with frames fitting tight at sides, and a sliding board at each end, which (after the bees have sealed the joints between the frames) makes them double walled all around. There are nine frames, 12x12 inches, and can be eleven, by taking out the loose end boards. I tacked a piece of wire cloth to one side of a frame (about half full of capped honey) so that it fitted tight on the bottom board, for a partition between the two queens; gave each three cards of comb and plenty of bees; put the false ends up to the combs, and covered the frame with several thickness of carpet, and filled the ends with the same material. They were left on their summer stands. When I opened them in April, they had eggs and brood in all stages. I doubled two queenless colonies for each queen, then added them and these bees, and they are doing well. The last week has been quite cold, with a good deal of rain.

C. T. SMITH.

Clinton Co., Ill., May 9, 1876.

For the American Bee Journal.

Can Bees Hear?

In your last issue, J. D. Kruschke says a good many things that are true in his article headed "Can Bees Hear?" I am not prepared at present to say whether bees can hear or not, am waiting for further light upon the subject. We all know that most bee-keepers in this country have discarded the use of bells, horns and tinware, from the fact that swarms will settle, as a rule, of their own accord, when not disturbed; but whether they will alight sooner by making a noise, is more than I can say, for I never tried it.

We all know that a great many animals can be taught sound for various purposes, but I have never heard of insects being controlled by the same means, except by the man that *whistled* his bees down. This was taken as a good joke at the time, and created a good deal of merriment. J. D. Kruschke, however, is satisfied that bees can hear, but the inference he draws from his experiments is not quite satisfactory to me, at least. The sense of feeling or touch is very acute in the bee. Now I would ask if it is possible to hold a frame of bees up before you as if for inspection and give "a rather loud shout," without *jarring* the bees? Let any person take hold of your hands, hold them up, let them shout, you note the result. Again, suppose no jar was felt by the bees from the body of the person holding the frame, will not the shout produce a concussion of the air sufficient to produce the effect described, as much, or nearly so, as if it

had struck the drum of the ear? I have heard it stated that a gun fired at an absconding swarm will bring them down. Is it the sound or concussion that produces this result? I merely throw out these suggestions for him to think over, hoping he will continue his experiments and give us the result. ARGUS.

For the American Bee Journal.

Hiving Swarms.

In large apiaries, and where natural swarming is practiced, every bee-keeper knows how important it is to get swarms hived as quickly as possible, to prevent several swarms from going into one mass.

I practice as follows: All my swarms are caught in a peach basket on the end of a pole. Take a basket and bore the bottom full of inch holes, and cut away quite a good portion of the staves, so as to make it as open as possible; stick the inside full all around on the staves with small strips of comb, a small leather strap, six or seven inches long, put through the bottom of basket and nailed on the inside, with a small harness snap on the other end of strap. Then fasten to the end of pole, a ring, snap into the ring and your basket hangs in the form of a bell. Take a light pole, with hook on the end, and you have all that is required.

We suppose your hives are already just where you want them to stand, ready to receive the swarm, some brood combs having been put in the hive. Now then, this hive has a cover to cap after the fashion of a band-box. Just as soon as a swarm is on the wing and they have selected an alighting place, take the basket in one hand, hook in the other, and when about a quart has settled to the tree, shake with hook and put basket in the spot. Just as soon as the bees begin to gather on the basket, lower the basket down about one foot or so, and keep the branch shaking with the hook, and in less than five minutes you have them all on the basket. Now carry to hive, and one jerk will drop them on top of the frames. Put on the cover and your swarm is hived and out of the way, and not a score of bees will take wing after they are put in. Towards evening you must put them in whatever shape you want them. If for a honey stock, fill them up with combs and brood, and put on boxes.

This will be found much more expeditious than the other way of shaking them down in the front of the hive. We have practiced this for quite a number of years, and could not get along now with the old way.

On page 67, March No., first column, near the bottom, is an error. It reads "Hive ten or fifteen swarms in August." It should read, "*Have* ten or fifteen swarms," &c.

To clean glass that has been used in boxes and is daubed with propolis; put the glass into a tub and cover each layer of glass with unleached wood-ashes; fill tub with soft water; let stand twenty-four hours, and it will wash as easy as new glass. J. BUTLER.

Jackson, Mich., March 16, 1876.

For the American Bee Journal.

Bee Notes from North Carolina.

We have had in February and March a heavy fall of "honey dew" on the pines, made by a plant louse about this size when grown, O, which turns into a fly of this length ———, very much like we see winged ants, only black and a little smaller. Some of my stocks are so heavy from it, as to encroach on the breeding space.

The honey is white as white clover honey, of a good flavor, and seemingly as true a *honey* as that gathered from the blossoms. Cold weather does not seem to affect the insects, as during its continuance we had ice freeze in small vessels two inches thick, and next day when the sun came out they were as lively as ever, and the bees buzzing as thick as usual.

Have you ever seen any "sourwood honey?" It's far nicer than white clover, and of a more delicate flavor, yielding a comb that is so fragile it's difficult to separate it in the mouth from honey. Our principle crop is of this, and but for the fact that I have a home demand for all I can make, would have sent a lot North on trial. Apiculture as a profession has been attempted in this state often, but has never yet proven a success. It cannot be on account of want of honey plants, for we have every essential for success. There is all along this mountain slope a continual succession of bloom from *frost* to *frost*.

During the summer we have the sourwood, commencing about June 15th, and lasting till August 10th, when buckwheat commences, to be succeeded by the "ironweed" or "tanglefoot" which lasts long after frost.

Summer before last, I knew of two Italian stocks that increased to ten; all *filled* American hives, with a surplus from six of much honey. All wintered well, and were in the hands of a plain farmer who had never seen a Quinly or Langstroth until mine was borrowed.

My success for three years has been uniformly all I could desire, barring a few mistakes the first winter.

No difficulty in wintering here, and have never heard of a case of foul brood. Have Italians entirely, with the exception of what black bees I may buy, but always Italianize as fast as possible. The hybrids work as well for me as the Italians, but as there are no bees except wild

ones near me, I find no difficulty in keeping my stock pure.

Tell your readers a rich new country is open to them; a cordial welcome awaits them; little cold; small taxes and a genial climate.

In honey, the coming season, I intend to show that the old North state is as good as California, and its honey *better*.

Your April JOURNAL is excellent, and there is an idea in it which I would particularly endorse, and that is to divide *late* in the season. I use the extractor with frames 17½x11¾ inches, and keep the bees comb building *all* the time, and by the time there are fifteen or sixteen frames to a hive, I divide and have ample comb to give both hives, besides having the advantage of doubly strong swarms during the height of the honey season. No trouble to secure straight combs.

Correspondents will cheerfully be answered if they *enclose stamps* for answer. I have no axe to grind, nothing to sell except what surplus queens may be raised, but will be glad to furnish any information to lovers of bee culture, that mayhaps induce a few to cast in their lot with us.

RUFUS MORGAN.

For the American Bee Journal.

Bee Keeping No. 2.

ED. BEE JOURNAL:—On April 6th and 7th last, I set out 200 stocks of bees upon their summer stands, and found them in extra good condition, some of them having been set out in February, and some in March, and returned again. They were wintered in cellars under dwellings. They had been fed, up to the time they were set out, 1,300 lbs of choice comb honey, mostly small frames, such as I use in supers, by placing super on in its natural position, containing one, two or three frames pure honey. This process insures enough to winter upon, and holds the cluster of bees at the place where they first commenced breeding; after being set out they can get their stores from the outside combs, etc.

Since my last, I see there has been a very largely attended bee-keepers' convention in the State of New York. I do not wish to be personal in the least, or to discourage the efforts of bee men to promote or advance the science of managing bees, but I must say that I fail to find anything in the report of the proceedings of this convention to advance the science of anything, or in the least beneficial to any one engaged in any kind of business.

I have been waiting very patiently in hopes that some of your correspondents would discuss these proceedings somewhat, but there has nothing of the kind come under my observation.

First, let us take a look into the question drawer. The questions seem to be weighty enough, most of them, but the answers are so very limited and inadequate, and some of them so simple, that it is a mystery to me how or why they ever allowed them to go to press at all. For instance, take question first:

"What is the best method of controlling swarming fever?"

Answer.—"The free use of the extractor, or by making an artificial colony."

Why try to control the swarming fever if you want increase? On the other hand, if you don't want any increase, why make the artificial colony?

Now, this talk about controlling the swarming propensity of bees is all a humbug, from beginning to end! If the season is propitious, and your bees come out strong and healthy in the spring, they will swarm more or less, and there is no effectual way of preventing it; and when I hear a man talking about a non-swarmer, or a non-swarming attachment, etc., etc., I put him down as a knave or a fool.

The point for the bee-keeper to decide, at this season, is whether he wants honey or increase. If you want the latter, irrespective of the former, increase them artificially. If you want the former, irrespective of the latter, give them all the surplus room that you think they will go to work in, and let them entirely alone. If you want both honey and increase, your operations will have to be controlled entirely by the season. "Be ready to act," will be the watchword.

Question 2d. "Is it an injury to bees to have more forage in the spring than they need for brood raising?"

Answer.—"Yes."

This is a very peculiar idea, indeed. If there is such a place on this earth, I would like to be informed where it is. I have been looking for it for the past ten years.

I will skip the other questions up to the 13th.

Question.—"What is the best method of preventing after swarms?"

Answer.—"Introduce a young, fertile queen."

Now, here is truly a display of wisdom. I did not suppose there was a man on earth, at this day and age, but knew better than to talk such nonsense! I attempted this once, my object being, not so much to prevent after swarms, as to Italianize. After searching and destroying every queen cell I could find, inserted one dozen choice queens, thinking this would be enough to commence with. Well, I succeeded in getting two introduced out of the twelve; two or three more swarms succeeded in getting their own queens, having a cell concealed. The balance I fixed up by giving pure brood from which to raise queens. I would not have felt so very bad about the operation had I succeeded in saving the other ten queens, but alas, these little

workers made angels of all of them! To prevent after swarming in any hive, on any place, whether you have one swarm or five hundred, hive the first swarm, and after you become satisfied that you have got the queen with them, place the hive upon the old stand, and move the old stock just as far as the limits of your yard will allow you, no matter if twenty rods, or even forty. All of the old bees with swarming propensity will leave the old stock and join the new one, which prevents after swarms very effectually. No moving five or six feet, as I have heard recommended; it won't always prevent after swarms. The old bees find it too readily. Put on your surplus receptacles the third or fourth day after hiving, and if there is any surplus made, this stock will make it. A. BEEASTICUS.

[We are sorry our correspondent was not pleased with the report of the New York men. We thought it good reading. The meeting was one of earnest and successful men. We have no doubt they will promptly retract, whenever they are convinced that they cannot control the swarming propensity.—ED.]

For the American Bee Journal.

Drone Brood Only.

I commenced bee-keeping in the spring of 1875, with four weak colonies of black bees, yet I received one swarm from each. But one of the swarms lost its queen by accident; another that swarmed on the tenth of July was properly hived and placed on the stand; but the following morning I observed some returning to the mother hive. The remaining bees began to work earnestly for three weeks. Then I noticed that there were more drones than workers. On examination I found the cells to contain only drone-brood. This put me somewhat out of patience and I let them experience brimstone. The remaining six hives I wintered on their summer stands. They endured the winter better than I had expected; but the winter was very mild, even so that they worked in February. This spring, to my astonishment, I found three colonies containing hybrids. The fruit trees were in bloom for eleven days, and the bees are busily working.

Please account for the aforesaid hive containing drone-brood.

J. W. BITTENBENDER.

Knoxville, Iowa, May 16, 1876.

[Without knowing more of the particulars, we cannot say just what was the matter, but in some way there was either a fertile worker, the queen being lost; or a young queen, which failed to be fertilized, and hence produced only drones.—ED.]

For the American Bee Journal.

What Can Be Done?

MR. EDITOR:—There are a few facts relating to the success of bee-keeping that are not duly kept in mind:

1. Bees cannot make honey; they can only gather it.

2. Of the honey gathered, the first stores furnished must go to sustain the colony during the time of labor, and the season when the fields afford no flowers for honey.

3. A colony of bees will consume from 60 to 100 lbs. of honey per annum.

4. If more colonies of bees are in the field than the field yields 200 lbs. per colony, they cannot average 100 lbs. of surplus.

5. If more colonies than the field will average 150 lbs. of honey per colony, they cannot average 50 lbs. of surplus.

6. If there is but an average 100 lbs., a part of the colonies will give some surplus, and secure winter stores, and some will starve to death.

Now, let us examine Otto Halblieb's field given in the last issue of the JOURNAL, page 119;

170 old colonies require	17,000 lbs.
115 new swarms	11,500 lbs.
$500 at 20 cents surplus	2,500 lbs.
Amounting to	31,000 lbs.
Deduct for failure to carry all through the winter	1,000 lbs.
Then we have	30,000 lbs.

as the product of the field.

7. One hundred colonies in a properly prepared non-swarmer hive, would gather the field and give 20,000 lbs., in surplus, $4,000. They would consume at 100 lbs. each, 10,000 lbs., $2,000.

8. The product of the field is 30,000 lbs. One class of hives consume one-third of the product of the field, and gives two-thirds in surplus. In the other case, eleven-twelfth parts are consumed by the bees, and one-twelfth part given in surplus.

9. It is not necessary to inquire which is best, one-twelfth, or two-thirds of the product of the field, $4,000 or $500. That requires no guessing.

10. But this is not all that is to be taken into account. In one case you have to watch, and care for, 170 stands of bees, and hive 115 new swarms, furnishing from $100 to $500 dollars worth of hives to put in your new swarms to starve to death in the winter, costing, according to the quality of the hive.

11. On the other side, you have to place your hives in the field, and the surplus boxes in place, in their season; and remove them when filled, supplying empty boxes in their place.

12. Your colonies will hold good, 10, 20, or 30 years, or more. 100 lbs. of honey for

the years' consumption of each colony may be a large estimate; but I think the winter's consumption, will not exceed one-third of the annual amount used.

JASPER HAZEN.

Woodstock, Vermont, May 2, 1876.

[According to this showing, certainly bee-keeping is a very profitable business. Does friend Heddon know of any investment he can make that will yield better than $4,000 from 100 colonies? Here are the *figures* to show that if Otto Halbleib had brimstoned 70 of his hives, and kept the remainder from swarming, he would have averaged 200 lbs. surplus per hive.

Still it is easy to say what *would* be. The question is "Who *did* ever get an annual yield of 20,000 lbs. from 100 colonies? Those having done so will please rise. Our observation has been that the men who have made the most money on bees, have invariably kept a large number of colonies.—ED.]

Maury County, Tenn., Bee-Keepers' Society.

From the report of proceedings we copy the following:

The above named society met at the residence of Wm. J. Andrews, on Saturday, May 6th. Present:

W. S. Rainey, President; C. C. Vaughan, Vice President; Wm. J. Andrews, Secretary and Treasurer; S. D. McLean, Travis McLean, Gen'l A. Bowen, D. Staples, R. H. Caskey, E. C. Overton, T. T. Martin, W. F. Moore, N. B. Sowell, J. C. McGaw, T. A. Sawell, W. R. Gresham, Isaac M. Byers, T. A. White, M. G. Grigsby of Giles Co., J. F. Love, and W. W. Oliver, of Marshall County.

Mr. Love was called on to state what experience he had had in rearing queens by grafting or inoculating.

J. F. LOVE. Had reared some queens in that way. It is done by removing the queen of a black or hybrid stock, and allowing them to construct queen cells. When these cells are three or four days old, remove the grub or larva, and insert a grub or larva of the same age from the worker cell of the queen it is desired to rear one from. He thought it about the best way to Italianize an apiary.

MR. STAPLES. With proper management, do you regard it a sure process?

J. F. LOVE. If proper care was taken it was certain. Eli Coble had succeeded with it.

M. J. GRIGSBY. Had transferred quite a number, and had been successful with fully one-half.

C C. VAUGHAN. I disapprove of the whole arrangement. Thought it would keep stocks queenless too long. It was best to rear and insert queen cells.

W. J. ANDREWS. While Mr. Staples, Mr. Vaughan and myself were all partners in queen rearing, we would have to differ upon this question. He took issue with Mr. Vaughan, and thought in many instances a colony might be supplied with a choice queen sooner than by waiting for the rearing and inserting of a cell. Only yesterday he had found a stock queenless, and with cells about four days old. In that case he had cut off the cells and inserted eggs from a choice queen. Whereas had he transferred he would have gained four days time.

Mr. Staples then went through the process of catching and caging a queen for market, removing and inserting queen cell, and other things pertaining to the business.

Dinner being announced, all partook of it, after which Mr. Staples went through the process of transferring a stock of bees from a box to a movable frame hive; at the conclusion of which the Society was called to order. All expressed themselves well pleased with his manipulations, and no one received a sting during the whole day.

On motion, the Executive Committee were granted until the regular meeting in July to prepare their report.

PRESIDENT RAINEY. Mr. Oliver has been telling me about his crop of honey. I would like to have him make a statement of it to the Society.

W. W. OLIVER. Last Spring commenced with ten full colonies—four double story and two nuclei; increased to 26 during the season: doubled to 20: extracted 2,100 lbs. Lost only one, and that a nucleus. Use the Langstroth frame. Don't know anything about box honey. Waited for and took sealed honey.

M. G. GRIGSBY. Thought the experience of others who had not succeeded so well should be given also. (He was then called on to give his.) Had 26 colonies: doubled them, and extracted 1,800 lbs.

J. F. LOVE. Had 35 two-story and 38 single-story hives: got 4,000 pounds: lost none.

S. D. MCLEAN. Had 38, mostly deficient in comb: yield, 2,000 lbs.

A. BOWEN. Was Italianizing. Extracted from 5 only. Got 25 pounds to the hive. Lost two. Balance of his stock, 26 in number, in good condition.

C. C. VAUGHAN. Had run for queens and increase. Lost one.

D. STAPLES. Had run for bees and honey. Had no record of his crop.

R. H. CASKEY. Had run for bees. Started with 24. Lost 1.

T. T. MARTIN. Had 40. Lost 19. His were mostly in log gums. All he lost were in log gums.

R. H. CASKEY. I move that each member note the number of hives he now has on hand, and report at meeting in October the increase and amount of honey obtained.

M. G. GRIGSBY. I move to amend the motion, that a record be also kept of the Spring losses, and a report made of them.

The motion with the amendment was adopted.

R. H. CASKEY. I want to Italianize, and would like to know the best time to do so.

D. STAPLES. Do it immediately after the poplar harvest.

T. T. MARTIN. Is it advisable to divide when transferring?

D. STAPLES. If you want to increase in bees, yes.

C. C. VAUGHAN. I move we now adjourn, to meet the first Saturday in June at Culleoka; which, being seconded, was adopted.

WM. J. ANDREWS,
Sec. and Treas.

For the American Bee Journal.

Wintering in the South.

Our travelling bees are now back at home, after wintering in Tenn. We shipped them south about the 1st of Oct. and back 2d of May. The round trip, together with expense of keeping them, amounts to about $100 per colony. Loss in wintering eight out of 113—four of them only lost queens. Advantages of shipping, are the certainty of wintering safely, and the increased amount of honey gathered in fall and spring in the south. The winter has been mild and the spring late, but notwithstanding this we are satisfied that the experiment has paid us, and will repeat it next fall. BARNUM BROS.

Southport, Ind., May 15, 1876.

For the American Bee Journal.

Thoughts Suggested on Reading the Journal.

Having been a close reader of the JOURNAL for the last two or three years, I would like to make a few notes. I am a beginner in the bee business, and consequently, of limited observation. The article on "Artificial Swarms," in the May number, is very explicit, and is just what has been needed by amateurs. The difficulty of finding the queen is often felt.

The article on "Black Bees Running Out," certainly treats the subject fairly; but the cause of bees dying out in this section, is not by "in-and-in breeding, causing the bees to deteriorate," but from other causes. Where are the thousands of colonies that were formerly found in northeastern Kentucky? Did they become weak and sickly "from in-and-in breeding?" No; they all, or nearly all, died in one winter. The disease now seems to have spent its force, and they are on the increase again. I will give you the expression, in his own words, of once the largest bee-keeper in this section, as to the cause of the mortality among bees: "*When the Sorghum came my bees went.*" I have talked with others on the subject, who thought that the Sorghum was the cause of the bees dying.

The article on page 137, "Can Bees Hear?" can be answered in the affirmative, without a doubt; if the writer will take a bee on the outside of a hive, at the entrance, when no other bees are in sight, fasten it by the legs causing it to give a note of distress, he will be apt to be painfully impressed with the belief that bees can hear!

Two queens in the same hive, is a rare thing, but I have had one such, the past winter; one queen was killed about March 11th, the other one is living and very prolific.

Cobalt mixed with bits of old comb, put in a box with some woolen rags, will destroy a great many millers and moths. Try it. To keep out the ants, set the hives on legs; place the legs in shallow dishes or shallow tin boxes, with water in them, and they are safe from ants. Of course, they have to be filled up with water, as it evaporates. Deep dishes will drown some bees, and that is objectionable. In making observatory hives, and for other purposes, it is necessary sometimes to get a hole through glass; glass can be softened and made easy to drill, by taking a small piece of gum camphor, placing it on the place to be drilled, with a few drops spirits of turpentine. Use the point of a file for a drill, or other hard instrument.

Mason Co., Ky. W. W. LYNCH.

Los Angeles B. K. Meeting.

The Bee-keepers' Association met at the Los Angeles Apiary on May 6th, 1876, J P. Bruck presiding.

The minutes of last meeting were read and approved.

On motion of Mr. Davidson it was adopted to establish a bee-keepers' library, consisting of manuscript papers, written for the Association, bee journals, periodicals and books, pertaining or useful to bee culture. Also, that Mr. N. Levering be appointed librarian, with power to select an assistant librarian, the latter to reside in Los Angeles. Mr. Levering said he should be glad to receive samples of honey, which he would keep convenient for inspection by any body interested in thematter.

Mr. J. W. Wilson spoke of establishing a fruit canning establlishment to utilize our second grade honey.

The Secretary distributed the rest of the comb-foundation on hand.

Mr. L. L. Buttler, of the Los Angeles apiary, joined the Association.

The meeting then adjourned, to meet at Leck's Hall, in Los Angeles, at 1 o'clock on the third Saturday in June.

W. MUTH RASMUSSEN, *Secretary*.

For the American Bee Journal.

How to Propagate and Increase.

HOW TO PROPAGATE BEES AND INCREASE COLONIES WITHOUT MATERIALLY INJURING THE ORIGINAL SWARM.

I have constructed, and am using, a combination of sections, made of a skeleton frame filled with straw, bulrushes or flag leaves, to absorb the moisture that accumulates from the breath, and allow the heat to pass from one section to another. These sections are to be placed upon a shelf, side by side, in a bee-house made suitable for their protection, and to remain both summer and winter; an extended entrance of about 10 to 15 inches leading to each section, each painted with a different color for the purpose of directing young queens to their respective locations, when they return from their bridal tour. The house may be made to contain from four to fifty sections, or colonies, proportioned to the number desired to be kept. If one colony is put into the house, it should be enclosed in the inside of the house, so the animal heat can be retained until sufficient swarms are made to keep up the temperature suited to their necessities. The manner of operating with this combination of sections, is as follows:

I first build up the old colony early in the season, to its full working capacity, by giving them all the assistance they need. As soon as the section becomes crowded with bees for want of space, or brood chamber, I give them more side room by setting 6 of the 11 frames over into section No. 2, with the bees adhering to them, leaving the queen in section No. 1; placing the frames containing the brood of both sections, to the sides adjoining each other, so as to economize the animal heat; and fill up the balance of both sections with empty comb, thus giving the old queen plenty of cells in which to deposit her eggs. The old worker bees will return to their former location, and the young bees rear another queen, which will be matured as soon as the workers are of sufficient age to go to the field to gather honey; and when No. 1 and 2 are full, No. 3 is added and one-third of No. 1 and one-third of No. 2 is taken, containing eggs, or larvae, is set over into section No. 3, with the bees adhering to them, leaving the queens in their old sections, replacing with frames and empty comb; and so continue to increase the sections as the bees increase. A queen should be reared for each section, and divide the frames as near equally as may be, always giving plenty of brood to the new colony; and by thus extending the sections and retaining the animal heat, with a prolific queen in each section, the worker bees are rapidly increased, affording plenty of laborers for the field during the whole honey harvest.

We may increase up to five swarms from each colony if they are in a prosperous condition early in the spring. This manner of management keeps the colonies strong and prosperous. They never dwindle away for the want of animal heat. The bees being scented alike, there is no fighting or difficulty in equalizing the colonies when needed. The result of this manner of bee-keeping, is that we have created several new colonies without materially injuring the old colony, and provided each section with a queen, and in the mean time the old workers of each colony continue to labor in their respective sections, and assist each other in generating heat for the benefit of the whole community. All the labor of overlooking and handling the bees, is performed inside the bee house in such manner that the entrance of the bees is not interfered with, overcoming greatly the liability of being stung, or the danger of introducing robber bees to molest. The house is so arranged that the bees may be overlooked and examined rainy days, without injury to the bees, thus saving time. The bee house consists of 4 to 6 shelves, two on each side with a space between sufficiently wide to handle the frames and sections with convenience, and space between the shelves for the sections and the honey boxes. The walls are doubly filled with six inches of saw dust, with double doors. The inside door is made of a frame covered with wire cloth, for summer use if needed. The greatest objection to some bee-keepers is, that it is patented, which, in the minds of some penurious persons, is enough to condemn it. EDGAR.

[The man who invents something of real value, is entitled to protection by letters patent. It is difficult, however, to decide as to the value of the article, *as* a patented article, unless information is given as to the patented features. The object of the AMERICAN BEE JOURNAL is to give all the information that can be obtained that shall be useful to its subscribers. Whoever makes any discovery that to him seems valuable, should certainly have space in our columns to give others the benefit of his discovery. If, however, a patent makes the improvement private, instead of public property, then it is a question as to whether notice thereof should be found in the advertising or reading pages. There are occasional cases in

which patented articles are of such unquestionable value, that we should consider ourselves lacking in duty to our readers, did we fail to keep them fully posted. As an instance, take the movable frame, the patent on which has bu lately expired. In the long list of patents that have been obtained upon hives, however, we believe there are very few that have obtained general favor among bee-keepers. We publish the preceding article, hoping some hints may be gleaned therefrom, of general interest.—ED.]

Shall Farmers Keep Bees?

A PAPER BY JULIUS TOMLINSON READ BEFORE THE FARMERS' INSTITUTE AT ALLEGAN, JAN. 11, 1876.

Were we told to-day that something of value was within our reach, to be had for the gathering; that plenty of laborers were ready to bring this to our door and put it into the most convenient form for our use; and that this labor would be freely performed, we would be deeply interested to know what that substance was and who were the laborers. The most beautiful of the processes of vegetable life is the opening of flowers; and in their recesses is distilled the precious nectar called honey, the substance of value. In the development of insect life so busily carried on about us, is produced the bee, whose natural instinct is to gather the honey from the flower—he is the laborer. Honey is beautiful to look upon and is equally pleasant to the taste. It is frequently spoken of in profane and sacred writing, and always with favor. Honey exists in plenty all about us, and although some believe to the contrary, still is is my firm belief that it exists in sufficient quantities to supply a few swarms on every farm. Bees are the only agents for the gathering of honey and they will, if room is provided, store enough for their own sustenance and a handsome amount for their owner. They also increase and form new colonies and are content with inexpensive homes. There is no question about the profit of bee-keeping where all conditions are favorable and all appliances are at hand. But there is a dark side to the picture. Some apiarists claim that bee-keeping can only be properly pursued as a special business—"that it does not agree with farming or anything else." This may be true from a certain stand-point, but among Allegan county farmers the facts are quite to the contrary Although a bee-keeper, wishing to make all he could out of his bees, he had no sympathy with any feeling which would discourage farmers from bee-keeping. There are, however, real difficulties even here. (1.) Bees are easily irritated and their stings are, to some people, very dangerous. They must be handled very carefully for once offended they do not soon forget it. (2.) The bee moth is an insect which always infests the hives and can never be entirely destroyed. It lives in the comb, consuming the wax and sometimes destroying the swarm. It is like a besetting sin, always ready to take advantage of any weakness of the swarm or carelessness of the keeper. (3.) Foul brood is a disease that is incurable so far as is known at present; and although it has never prevailed in Michigan there is danger of its introduction and it must be considered as one of the risks of bee-keeping. (4.) All these ills are insignificant when compared with the terrible disease called dysentery, which, though of recent origin, has spread all over the northern states, killing, each winter and spring, at least half of the bees. So deadly is it that Mr. Bingham of Abronia, one of our most skillful keepers, has taken his bees to Tennessee to escape it. But whatever be the manner of wintering, the bees come out in the spring so weak that it requires great care and skill to bring them up to working condition. Of fifteen swarms he had left last spring, one-half failed to thrive and make surplus honey. Probably seventy-five per cent. of those who had bees five years ago now have none, and unless some remedy is found for this disease we may as well despair of success. There are other drawbacks, such as loss of queens, ravages of parasites, king-birds, etc. These are the hindrances, and each must for himself answer the question, "Shall farmers keep bees?" Among the requisites for a bee-keeper are steady nerves, undaunted courage, a fair share of mechanical skill, promptness, habits of close observation, and unflagging enthusiasm in his calling. All who have these qualities and a heart and purse to undertake the risks, may keep bees: but those who have them not, had better pay one dollar a pound for their honey.

For the American Bee Journal.

My Experience With Small Frames.

Much has been said about the different hives and broad frames. Bee-keeping will pay, with proper care and treatment—but I cannot make it pay with the Langstroth hive in this section. The reasons are: we must not leave more than 1600 square inches in the brood chamber in this northern climate; the ends shouid be tight to prevent the cold air chilling the brood in the spring; a board should be in the place of the first frame, to take out and leave room to lift out the frames; this may also be used to contract the brood chamber for a small swarm; a loose bottom board is necessary, as every bee-keeper knows;

surplus honey should be procured in about 2 lb. frames, for ready sale.

Last fall my honey put up thus took the first premium at our fair. To market, I put these little frames in boxes holding from 25 to 50 lbs. with glass in one side to show to advantage.

I have tried these small frames and must say they are perfectly satisfactory. I have 38 swarms—part in open frames and part in tight frames; the latter are every way satisfactory. I wintered in the cellar. They did well last season and wintered well. E. V. PHILLIPS.

Whiteside Co., Ill.

For the American Bee Journal.

Good Report from South Western Missouri.

For honey I think we can equal any other place east of the Rocky mountains. Bee keeping is in its infancy yet; only a very few are making it a business, and giving it the share of attention that it is entitled to among other matters. To show you and others, I will give you an account of some of my colonies last fall. One swarm came off August 11, from which I obtained 50 lbs. of box honey, and they have wintered well and are now in a fine condition. One swarmd September 7, from which I obtained 15 lbs. of box honey. One hive swarmed five times after August 25, and I saved them all over, and they are doing splendidly now. I have now 36 colonies, all in good condition, and I am going to beat some extractor men, raising honey this year. I will do it too, without comb foundations. Our bees do best here in the fall season, unless we get a honey dew in May or June. Our Springs are generally wet and cold through fruit blossoming time, and then there is a cessation of flowers through June and July, until about the time sumach blooms and corn tassels, then we get honey in abundance until frost, unless we have a very dry fall. My bees are mixed with the Italian stock. Probably some are pure. I like them better than the black ones. I go for box honey altogether. Do not like the extracting business. I can find a better way to give the queen room, than to use the extractor. When you extract the honey out of a comb, you do not leave it in a condition for the queen to deposit eggs in, but it has got to be repaired and cleaned. The loose honey has got to be licked up, and will be deposited immediately in the same cells, so the queen is deprived of using it at all.

[Your bees act differently from ours. —ED.]

My plan is to take the outside frame or frames, and cut out the honey, comb and all, and open out the brood, and place the empty frame or frames in the center, and if the honey season is good, the bees will almost fill the frames with comb in one night, which is new and dry, in which the queen can deposit eggs, before the workers get it full of honey. This idea of consuming so much honey to make a little comb is all bosh. Bees will eat just as much when they are not building comb, as when they are. The material of which the comb is built is always plenty, when the bees are well fed, and as they build the most of the comb in the night time, there can be but little time lost, and less honey. These are my ideas, and if I should learn better, I will own up, like a little man. I am in favor of progression in every branch of industry, and do not want to hold to any old fogy ideas, if I know it. GEO. H. MOBLEY.

Nevada, Mo., Vernon Co., May 15, '76.

[We think our most advanced bee keepers would consider it going back to old fogy ideas, to believe that building comb is not done at quite an expense of honey Some of them would give considerable for the secret of raising with a given number of bees, as many pounds of box honey as extracted. We shall be glad of any light to help in this direction.—ED.]

For the American Bee Journal.

Sectional Boxes.

In the March No. D. D. Palmer asked how to put on sectional boxes, or small racks to hold glass. I will give my plan:

I make my racks 6 inches square, the side pieces 5¾ long, 1¾ wide, ¼ inch thick; top pieces 6 inches long, 1⅛ wide, ¼ thick; bottom pieces ½ inch square, 5½ inches long, scant; now a rack or honey board to hold them. Cut 4 pieces 3 inches wide, ½ inch thick, 14⅜ long, and 2 pieces 20½ inches long, 5 inches wide, ½ inch thick, the two side pieces nailed through the sides into the end pieces, with No. 6 finishing nails, the 14⅜ pieces, one at each end, and the others 1⅛ of the space from each end. This frame will hold about 40 lbs. of honey. For a bottom use stuff 1¾ inches wide, ¼ thick, 20½ inches long; these are the same width as the rack; it will take 6 of them for one frame. There must be three slots cut in each side of them, 4 inches long, ⅜ inch deep, 1½ inch from each end, one in the middle of the piece; and 2 pieces 20½ long, 2¾ inches wide and ¼ thick. They need slots on one side, the same length and depth of the others. To nail them on, put one of the wide ones on first, slots on the inside; nail with "3 penny fines" to that slotted on both sides, and the last one with slots on one side, slots inside. The slots are to let the bees come up between each rack, and there is a piece under each rack to prevent them from building comb

on the under side of the racks. This makes a good honey board when on the hive. Now rack on; spread a cloth in the places for the rack; to put the rack on, put a glass 6x6 in. first; in 8 racks put the other glass. Put small wedges in against the glass to hold the racks tight together. The rack must not fill the space, so crowd them in. This is very convenient for outdoor wintering, by putting a piece of cotton cloth over the holes and filling the frame with sawdust. This is to fit a ten-frame Langstroth hive. I send my honey to market in the same kind of frame, with glass in, only the bottom is tight; it shows off well in them. JOHN M. BENNETT.

Bremer Co., Iowa.

Improvement of the Italian Bee.

A PAPER READ BEFORE THE NINTH ANNUAL SESSION OF THE MICHIGAN BEE-KEEPERS' ASSOCIATION.

Gentlemen:—I wish to call your attention to a subject, though nothing new in itself, but I think of importance: viz., the improvement of the Italian bee; and I think it will be admitted by all that they are as susceptible of improvement as any other class of animals, fruits or flowers, though there may be some difference of opinion as to the best means to be put into operation for the accomplishment of this desirable object. Many seem to be satisfied when they obtain an *imported* queen, or queens from an imported *mother*; this is all very well so far as it goes, but I have yet to learn that the bee-masters in Italy have paid much if any attention to the *improvement* of the Italian bee. Now with this understanding coupled with the fact that there are a great many dark, and even black bees in Italy, there must of necessity be a very great diversity both in color and disposition; and there is no bee-keeper in this country, who has for years cultivated the Italian bee, but must have noticed the great tendency, as florists would say, to sport: therefore making all tests of purity very unreliable.

In Germany, from whence we have derived the most of our knowledge of the physiology and habits of the bee, considerable attention has been paid to the improvement of the race, and the prominent apiarists there say that the Italians are not uniform in color—not a *fixed* variety. The Italian bee, in America, has also been much improved; England has come here and taken back an improved stock of her own breeds, far surpassing the original, beautiful Italian bee.

But we must not rest with results already obtained, for we live not only in a progressive country, but in a progressive age; we must still endeavor to reach a higher standard of beauty and purity. The question naturally arises here, how is this to be brought about? In my humble opinion one of the chief means is the improvement of our *drones*. Most bee breeders have paid more attention to the queen than the drone. Let me draw your attention to the fact that cattle and fowl breeders give as much if not more heed to the male, and they are very successful in their operations. Now if we depend entirely on the queen for all the points desired, disappointment will follow.

The drone question has not, however, escaped the attention of the master minds in bee-keeping. Dzierzon says, "It is my practice always, to select and reserve only the perfectly marked queens *and drones*." Berlepsch says, "I shall constantly endeavor to preserve and breed from the finest, that is, the most brightly colored *drones*." Vogel says, "Accordingly in our endeavors to provide an improved breed, our attention must be pre-eminently directed to the *drones*." Langstroth says, "As the drones of some Italians are much more beautiful tnan those of others, we can select a stock containing such to impregnate our queens." Now I think you will see from what has already been said, that this subject has not received the attention that it demands.

There are three points which ought and can be much improved viz.: color, size, and disposition; and it will be an advantage, of course, if we can work for all the points at the same time. I have not named prolificness as one of the points, for I think, as a rule, queens are prolific enough if the conditions of the hive are all right.

Some bee-keepers seem to be under the impression that our queens are lowered in vitality as they are raised in color, but as far as my observation extends, the brightest colored are as prolific, and long-lived as the dark ones. Others again say if we breed too close, our stocks will become impaired; true, the same natural laws that govern life in all its phases govern bees, but the careful breeder can easily avoid this by exchange or new importation, and not allow his stock to run down on account of too close breeding; but we must breed in and in, to some extent, in order to bring out some points desired. The bright colored queens and bees are certainly more pleasing to look upon than the dark ones, and it is certainly a pleasing sight to see a company of young bees, for the first time, sporting in the noonday sun.

I would, therefore, urge each one, not to rest satisfied till he obtains his drones as beautiful and distinctly marked as his workers. This, in my judgment, is one of the means through which we may expect to improve the Italian bee.

GEO. THOMPSON.

KANE CO., Ill.

For the American Bee Journal.

Reply to C. P. Dadant.

Since Mr. Dadant has said that he entertains no hard feelings towards me, and as I am sure I hold none toward him, I hope our controversy may not be simply one of quarrel, but that we may bring forth a little light upon these important questions. In order to prove that extracted honey "*does* pay" Mr. Dadant cites us to the time when I got 28c to 30c for jarred honey, when I was at an expense of 10c to 15c per pound for bottling and selling it. I have not the time to spare to run back over the old journals and quote from the enthusiastic writings and reports of former days when we got good prices for our honey, and lived in high hopes of "money in the apiary." But I can remember enough to know that Mr. D. only tells a *part* of the story. I never said that I never sold my honey less than 28c to 30c, though I may have got that price for *some* of it, in those days of good demand and fair supply. One year I bought the crop of several honey producers, and handled in all about the amount Mr. D. quotes, but ere another season the bottom felt out of the demand for honey. Truly, friend D., my present opinion in regard to comb *vs.* extracted honey is entirely changed. Progression demands a certain amount of changing. I did not say that bee-keepers could raise extracted honey cheaper than the *dealer* could adulterate it. Why not be fair, and quote what I said? Perhaps I did "run out" with my customers, for two reasons: First, because my honey being pure would granulate, and *granulated honey is* NOT *a merchantable article.* Second, I found many of my customers cut off by other apiarists who had sprung up like mushrooms, and the dealers rightfully bought of the nearest producer. The way I came to get $800 worth of honey from the small number of colonies, was by the wonderful increase that plenty of empty combs, and the best season ever known here gave me. Again, I put all my time to these few bees, (and worked fourteen hours per day, too,) spent lots of money in advertising and selling, besides being very fortunate in striking a tip-top market. Why, bless your soul, I once knew a half acre of red raspberries to pay $1,600! I say "I knew it;" I *knew* the man that knew it. I was greatly at fault that I did not tell the *whole* truth, but young bee-keepers are proud and high-spirited you know, friend D.

But suppose I do *now* complain that bee culture "*will* not pay." What have "has beens" to do with "will be's?" I say that "extracted" is inferior to cane syrup for all practical purposes except sauce. Why not quote what I say, or not quote at all? Read what I quote on page 161, A. B. J., for June, 1876. I say that honey that has been all capped over for two weeks (in the hive) is superior to that which has only *just* been all capped over. I furthermore say that I believe that 99-100 of all extracted honey is more or less sour. That is, has changed more or less since extracting. Finally, Mr. Editor, if bee culture pays now, what a fortune we must have laid up when we got not only large yields, but high prices. Why, "my stars," when Hiram Roop wrote me that he had contracted (only last season) twenty barrels of honey to Mr. Muth for 10c per pound I thought, "Oh! thou lunatic!" But now here is another one; who wants to buy?

Probably a discussion of which kind of surplus to produce, will not benefit us at all. Every bee-keeper can decide that for himself and no one else can.

This is a very busy time of year with us all, and I subscribe, yours in a hurry,

JAMES HEDDON.

Dowagiac, Mich., June 2, 1876.

For the American Bee Journal.

Comb Foundation.

Having had some little experience in the use of comb foundation, I have a word to say, as per request, for the readers of the JOURNAL. For about ten years past, it has been in use by several parties in this State, and in Wisconsin, under my observation, with good success—as a *starting comb*—in small boxes for comb honey. Have bought and sold honey frequently, with this artificial comb foundation used in the boxes, and have never heard a word of complaint from any dealer in, or *consumer* of said honey, as to their being anything offensive to the "*palate*" of an "*epicure*," even.

So far as my notice extends, there is comparatively but a small piece of comb foundation used in each *honey box*, or, rather, for *each card* in a box—about two or three square inches.

If you have natural comb, which is clean and white, I would advise using it so far as it goes for starting comb—but the artificial comb foundation is far preferable to natural comb which has become soiled or dark colored.

It seems rather *dear* to pay $1.50 per lb. for the comb foundation to put in *honey boxes*, but it will be cheaper to pay twice that amount for it than to put the boxes on your hives without any starting comb, from the *fact* that without it bees will not begin work in the boxes near as soon, thus your product is diminished, and put up with *less order*.

P. MILLER.

Chautauqua Co., N. Y., May 29, 1876.

CINCINNATI, O.—June 23, 1876.—"The honey season is good here, and the quality of the honey never was better."

C. F. MUTH.

For the American Bee Journal.

Queen Killed by the Sun.

I aim to have a portion of one wing clipped of all my queens, after they become fertilized. I then can govern swarming; and besides this, they never go to the woods, and it is easier to hive them if we wish volunteer (natural) swarms, by setting the new hive in place of the mother stand, and catch the swarm as it comes back, in place of climbing trees, etc.

After No. 17 swarmed, when the swarm had settled, I gathered the queen from the ground, as usual, and put her under a glass, on a plate. I knew that glass would act as a reflector, and draw heat in the sun, but the weather being rather cool, thought she would be too cold in the shade. I set her in the sun and went into the mother hive to destroy the queen cells while the swarm was sailing in the air. When I was through, and went for my queen, behold, she was dead! I have learned this: the sun may reflect more heat than we might expect.

I swarm artificially. I cannot afford to suffer the loss that is caused by volunteer swarming.

Bees wintered well, but are not making any increase for apiarists in this part of the country, so far this season.

E. Liston.

Cedar Co., Mo., May 29, 1876.

For the American Bee Journal.

Wax Introducing Cages.

Let all who wish to try the wax introducing cages advertised in the May and June numbers of the American Bee Journal. Make them according to the following directions and *not* send any more orders to me for them

For a mold take a smooth, round, tapering stick ⅜ of an inch in diameter at small end; wet it and dip it into melted wax and then into cold water; you have then a wax cage very much like a long thimble. Draw it off the mold and make a row of holes with a hot wire around the the small end, to guide the bees in cutting off the lid and to allow them to feed the queen while imprisoned. The cage or cell should be about two inches long. Put the queen into the cell head foremost and confine her by folding over the open end and pressing it; the cell may be put into the queenless hive through a hole in the honey board. The bees will go to work to cut the end out of the cell and release the queen which they will accomplish in four or five hours if the cell is of proper thickness. Meanwhile, the queen sticks her tongue out of the small holes in the cell, and the bees cultivate her acquaintance and supply her wants.

In trying to find some sure and easy way to introduce unfertile queens, I discovered that they could be safely introduced by putting them into an empty queen cell, sealing them up, and telling them, so to speak, to hatch out again. See American Bee Journal, August, 1875, page 189. Empty queen cells failing me at one time, I molded some of the wax as above and found them to answer just as well, and more easily prepared. If the wax is very hot the mold will have to be dipped two or three times to make the cell of proper thickness.

I have often tried, but never succeeded in introducing unfertile queens in wire or wooden cages; but with the wax cells have introduced them safely every time in numerous instances both this season and last.

Wm. C. Pelham.

Maysville, Ky., June, 1876.

A Valuable Instrument.—The Microscope among the masses, seems to be looked upon as an instrument for use in scientific investigations rather than as one possessing any practical value. Nothing could be farther from the truth. To the farmer, the Microscope offers the means of studying the habits of destructive insects, with the view of ascertaining some method for their extermination. Teachers and students of botany are afforded an opportunity to examine the construction of delicate flowers and plants, thereby reducing to practice, the knowledge obtained from text-books. Merchants can investigate the quality of all kinds of fabrics. The miner is able to detect traces of the precious metals where the unaided human eye would discover nothing. The physician can determine the nature of many diseases that otherwise might baffle his skill. Indeed, so varied are the uses to which a good microscope can be put, that a volume might be written on the subject.

In the belief that many of our readers would be glad to possess an instrument of genuine value, we have made arrangements to furnish the Abbott Pocket Microscope to all who may desire it. The price is low—only $1.50—and it will perform more real service than many instruments costing a great deal more. We believe every family could make one of these Microscopes practically useful. Certainly every farmer, teacher, or student should have one. They will be sent postpaid to any address, by the publisher of this Journal, on receipt of price.

☞ We have a new lot of fresh mellilot clover seed, that we can supply at 25 cents per lb. Postage 16 cents per lb extra, if sent by mail.

Biographical.

William J. Andrews

Was born in Columbia, Maury county, Tennessee, May 28th, 1838, of Irish parentage, at which place he has always resided. He is engaged in the Hardware and Agricultural Implement business, at that place, and was brought up to the business. Was for three years a member of the firm of Andrews, Mayes & Co., and at present a member of the firm of Andrews, Barkley & Co., and J. P. Street & Co., hardware dealers, at that place. He is also engaged in the bee business, and is a partner of the firm of Staples,

Andrews & Vaughan, proprietors of Columbia Apiary, whose advertisement appears in the JOURNAL.

Mr. Andrews has occupied many important trusts at the hands of his people. In 1860 he was an elector on the Douglas presidential ticket. He has held the position of Mayor, Magistrate, Notary Public, in his turn. He is a contributor to the several bee publications, and is at present the Secretary of the Maury County Bee Keepers' Society. In the April number of the *B. K. Magazine* he gave some of his experiences as a beginner in bee-keeping. As this may be interesting to other beginners, we extract as follows:

"In 1858 I got of a neighbor two stands of bees in box hives, by *stealing* them from their positions, leaving on the spot where they stood two $2.50 gold pieces, as my neighbor would not sell them, saying it was '*bad luck* to sell bees.' Up to that period, but few would sell bees, and the only chance to purchase was at a public sale. However, before I *stole* my bees I had a conversation with my neighbor, in which I told him I thought of getting a few stands, and would do so provided he would hive all swarms and do the robbing for me. He promised to do so. It was out of the question for me to think of handling them, as I dreaded the stings.

In a few weeks after I got my hives, they threw off a large swarm. I had a hive in readiness and sent for my neighbor who hived them for me. While he was working with them, I mustered up courage to venture near, then nearer, and still a little nearer; he speaking words of encouragement all the while, until I soon found myself at the mouth of the hive, and the little fellows buzzing all around me. I have hived all my swarms since. Soon after swarming, robbing came on. My neighbor was called in again. I assisted, and closely watched his movements; since then I have done my own robbing. Up to this time I had received no stings, but many a one have I had since. I became infatuated with the business, but was ignorant of any bee-books or journals, and had no knowledge of a queen-bee, neither had my neighbor, nor has he yet. He has since moved out of my neighborhood and quit bee-keeping. I occasionally meet him and have a bee chat, but he won't be convinced that there is a queen bee; says the drone is the *male* and the workers the *females*.

But I digress. The next year I bought a fine bee palace. I was then trying, and continued for several years after, to devise means to prevent swarming. Into my

palace I drove a swarm of bees; it was about five feet long, three feet deep and three feet wide. Room enough in it for a dozen or more good swarms. From it I never got a pound of honey, and in the winter lost what bees it contained.

In 1860, a patent vender came along with a 'patent bee-house.' My neighbor bought a right to use it and proposed to me that he would stock it with bees if I would pay for the making of the house, to which I agreed. It cost $50. I forget the name of the patentee, but it was constructed to receive twelve hives, and upon the top and back of these it was arranged for the placing of small glass boxes. It *was a* beauty in its way. We got it stocked with bees, but ere the next season ended, the moths ruled supreme, and we lost all but three hives; these I moved into an outhouse during the war for security, and from these three my neighbor and myself got a start at the close of the war, having lost all those left standing out. The house we decided to be a humbug, and demolished it.

The next year I conceived an idea of a bee house of my own. It consisted of a series of drawers, eight deep, and arranged for four swarms of bees. Each drawer was 12x12 and 4 inches deep, on top of each was a square hole 3x3 for a passage way. In the rear a glass with cover, for observation. For this I paid $30. I placed on the top of it two hives with a view of allowing the bees to make their way down into it, one at each end. They had made their way down to about the third drawer, and I had been promising myself for several days to smoke them down, but ere I did so, some 'Johnny rebs' came at night and saved me that trouble, in part, by carry one of the hives away, which I tracked, the following morning, to the rear of Gen. Forest's headquarters, where I found the hive demolished and robbed of its contents. The bees had been gathered up by a friend, who informed me that the queen was killed. He showed me her carcass, that was the first queen I ever saw. My friend offered me the bees, but I declined taking them. The other hive I immediately put smoke to and forced the bees down into the drawers, but during the season the moths also took them, and as was my custom, when the moth got into my bees, I consigned the whole to the flames.

The war was now raging, and all the mills and work-shops were suspended; I could not get lumber or have hives made, so I had to resort to boxes and empty kegs. I had one swarm to come off which I tried to hive in an empty ten gallon whisky keg, but it was no go; then procured a wine keg of the same size, and the way they took to it was fun, I tell you —never before or since had I bees to enter a hive so readily as they did that wine keg.

When the war closed, I had three hives in hand, two being a part of my 'patent bee-house' and the other the wine keg, which had bursted all its hoops, and was held together alone by the propolis put on it by the bees. One of these I gave to my neighbor. The others I transferred to movable frame hives by driving. One of these hives I had made very fancy, with an 8x10 glass on three sides. Shortly after my transfer I saw in my hive, with the glass in it, the *first living* queen I ever beheld, but it was only a momentary glimpse. I now had movable frame hives, but no more knew how to handle them than a baboon, and as to removing the top and lifting one of these frames out, I would just as soon have thought of putting my head in a seething cauldron. I forgot to add that after driving, I dissected the old hives and found the three classes of cells, viz.: worker, drone, and queen.

After awhile another patent right man came with a movable frame hive; but I cried humbug, saying I knew the bees would pay no attention to those frames, that they would as soon, if not sooner, build their combs crosswise on them as to follow them; for in my glass hive I had seen that they did it.

Shortly after, still another came. This one, now my partner, had the American, but I never had anything to say to him on the subject. In fact, did not make his acquaintance until last year. I fell back on the old box hive, and came to the conclusion that all else were humbugs, until last spring. In the month of April I drove into the country to spend a day with a friend. He had on his place about thirty Langstroth hives, seeing which, led us into a conversation about bees. I briefly recited to him my experience, and told him that I had never seen but one living queen. He soon got a couple of veils, handing me one, and taking one himself, he opened a hive and very soon pointed out an Italian queen. My old enthusiasm became again aroused.

When I got home I had three movable frame hives made after my own idea, which I have since become convinced was very erroneous. Also provided myself with veils. My friend came, in a few days after, and transferred the bees from one of my box hives to my movable frame hive; after which I put them all, eleven in number, into the same kind.

I then obtained the works of Langstroth, Quinby, Hunter, King, and the four bee publications, of which I now have complete files.

I did not stop at transferring, but immediately proceeded to Italianize all my own stocks, as well as some of those of my neighbors."

Voices from Among the Hives.

PAOLI, IND.—June 1, 1876.—"I never knew so good a honey crop in May before, since I have been keeping bees."
B. M. LINGLE.

HOWARD CO., IND.—June 12, 1876.—"Bees have not done better for years, than since fruit bloom. I have taken off some boxes well filled with clover honey."
LEVI BARRETT.

LUCAS CO., O.—"Bee houses are no *new* thing; I made a nice one over 30 years ago, as did several of my neighbors. After repeated trials, we all gave them up. I like the JOURNAL more and more every number. Isn't it queer that a drone has no nearer relative on the male side than his grandfather? If a big dose of royal food will make a female out of a neuter, isn't that queer too? And if a half of a dose will make a drone layer, that is queerer than all! Royal food is royal nonsense! Bees raise workers from female eggs. Quinby 'got the cart before the horse.' Bees digest their food before they feed their young, and all young bees are fed on the same kind of food."
NORTON CASE.

FRANKLIN CO., MO.—"I wintered in the cellar and on summer stands with success. If properly prepared they will winter here in either way. I have both the long and two-story hives—from 3½ to 5 feet long. I have extracted from my 4 ft. hives, containing 32 frames, 56 lbs and had them refilled in from three to four days. I think I lost by not having boxes on, as they might have filled them while I was waiting for the honey in the frames to be capped over. My new idea hives are made to have room above the frames to hold boxes six to seven inches deep, and the end heads are made six inches longer than the hive is wide, on each side, and a rabbet run one inch from each end to slip in a board for an outside wall, which leaves a space of 4 inches, which I pack with hay or straw for winter, putting a quilt over the frames and fill in with rags, paper and straw; then take out three frames from each end, put down a division board and pack the same way, and my bees pass the winter well, if they have plenty of good honey or syrup. I have some hybrid queens that occupy 26 frames 12x12 inches with brood."
S. MILLER.

VINTON CO., O.—May 8, 1876.—"I have 50 colonies; they have gathered heavily from fruit bloom and wild flowers. Everything seems to be loaded with honey. Have extracted from my strongest colonies to give the queen room. White clover is abundant. To warm up the hives I take the covers off, elevate the rear and let the sun shine upon them. I use a mat or a carpet on frames, and in the spring a tight board on it, with a stone to keep it in place. I think that the queen is not satisfied with one drone on her bridal trip—but meets two or more. What do you think about it? Long live the JOURNAL!"
J. B. RAPP.

[As to whether the queen meets more than one drone, the question is not yet positively settled in the minds of all.—ED.]

OCEANA CO., MICH.—June 15, 1876.—"I have 12 colonies, all doing well, and almost ready to divide. I am situated on White River, 22 miles from Newaygo."
B. F. BENTON.

FREDERICK CO., MARYLAND,—June 14, 1876.—"My bees are doing well this season, hives full, and bees gathering honey rapidly from white clover and persimmon; extracted yesterday. I got from Ch. Dadant & Son, a good imported queen, last summer, as did also my brother. Both were splendid, and fully up to their representations." J. M. C. TAYLOR.

MOULTRIE CO., ILL.,—June 14, 1876.—"I have 16 stocks all doing well. Have extracted 300 lbs. of white clover honey. Am an amateur, but devote the spare moments to my pets—from my professional duties—and am amply paid. I take much interest in the JOURNAL."
ALVIN P. GREENE.

MONTGOMERY CO., IND.,—June 15, 1876.—"White clover is abundant, and bees are doing finely. Many here are getting interested in bees." ISAAC SHARP.

CHICKASAW CO., IOWA.—April 6, 1876.—"I have ten swarms now, I got them last fall. They were wintered in a cellar; did not lose any; one of them was quite weak; it was hybrid. I have three of them, all are in good condition and on their summer stands now. It has been rather cold but they seem to be doing well; have plenty of stores as yet. I set them out March 14th, they have had only two days that they could fly, and that was the 31st and 6th. I am quite impatient for it to come good weather, it seems to be quite backward in this section. Bees seem to winter well in this part as far as I have heard. I wintered in a cellar under the kitchen—it was just above freezing. My father has 30 swarms; all wintered well with the exception of 3 or 4 that were weak; they died for want of honey. They take the JOURNAL, I read it the most of the time. I like it much, it seems to tell what any one wants to know. It seems as though I couldn't read it enough. I will give a little sketch

of my experience in bee-culture. I first bought a stand of bees of my sister. I paid 6 dollars for it. It was money got by trapping, when I was a lad. They died the next winter. The next, I worked with my father in his apiary and he gave me two swarms for helping him; these I kept; they increased to five and winter-killed the next winter. I am trying very hard again. I understand but very little as yet about them. I use the Quinby hive and the American too; I like the latter the best." ED. J. HILL.

[Better use only one kind of hive. It is easier to settle upon one kind now than to change when the number is greater.—ED.]

FRANKLIN Co., N. Y.—"I put 15 swarms of black bees in my cellar Nov. 4th, 1875, and took them out April 15th, 1876, all in good condition, and strong in bees. My cellar is dry. I kept it dark, temperature 37° to 40° ; they were in the old fashioned 8 frame Quinby hive. I made 15 new Langstroth hives this spring and transferred my bees and comb into them two weeks ago. If I was capable of writing for the AMERICAN BEE JOURNAL I would state how I did it. It is simple and easy; it took me about fifteen hours. I worked hat off and shirt-sleeves rolled up; did not get stung; used a little smoke, applied with the Quinby smoker. I intend to Italianize all my bees this summer; that prince of good fellows, Mr. J. P. Moore, of Binghamton, N. Y. promises to instruct me."

CLEMENT MCDERMOTT.

[Tell us how you transferred if your plan is new, by all means. Also, *why* do you transfer from Quinby to Langstroth hives?—ED.]

HENRY Co., IOWA.—May 24, 1876.—"Seeing no news in your valuable JOURNAL, from Henry Co., I hasten to tell you of the favorable and most promising season that has just opened within the last few days. Although the wind blows, it does not stop the busy little workers from performing their daily labor, which the God of Nature hath made for their skillful talents to complete. Fruit trees are in full bloom. There is a good prospect of having abundance of fruit. Father says he never saw bees make so much honey from the bloom as they are making this spring. We could begin extracting now, but father thinks he will put boxes on most of the hives. Is everybody so particular as my father, I wonder? Every spring he scrapes, sandpapers and washes the bee-hives (with my help) and puts every swarm into clean hives. Is it any use to be so particular? Will we have any better success? Father has never had as good luck as some. Our bees are all Italians. Some are preparing to swarm. Our bees all lived through last winter. We put some in clean hives yesterday and found one to be queenless. Some are preparing to swarm. Father has twenty-six swarms and I have five. I am as yet a beginner. Wheat and oats are all sown, but not much corn is planted yet." MISS L. J. NOBLE.

JASPER Co. IOWA.—"It seems foolish to hear so much about the different methods of wintering bees. That matter is settled with us, since we have wintered bees, for the last three winters, on the summer stands with perfect satisfaction, in Finn's porous double-walled bee-hive. Our neighbors that are using this hive are equally as well pleased as ourselves. All we have to do is to see that they have stores in the fall, and put on the chaff-box well filled with chaff."

MRS. A. D. KEYES.

HOPKINSVILLE, KY.—May 10, 1876.—"I wintered 18 hives—all came through safe and sound. All wintered on summer stands with no protection at all; one, a nucleus of 3 frames only. Last season was very bad for honey in this part of the state but I had enough and to spare; while most others who keep bees in box hives had none. I had about 400 lbs which sells for 25c and 30c. Have had two swarms this season, all doing well. I want some information about one of my queens. She is fine and healthy looking, and lays an abundance of eggs, but none of them mature. Bees seem to be trying to make drones out of them, and try to rear brood from them, but none mature. Often 3 or 4 eggs in one cell; what is the matter? I have broken the colony up and keep *her* in an observing hive to find out, if I can, something about her. I send *two dollars* to pay for JOURNAL. Can't get along without it." R. M. ANDERSON.

HENDERSON Co., N. C.—April 6th, 1876. —"We had the most wonderful honey dew ever known in Rutherford and Polk counties, N. C. about 20 miles from where I live, in the month of January. Bees got wonderfully rich; the people robbed their bees to the cross sticks in the log gum, and in two weeks they robbed again. I was told by a reliable man that the honey dew was dripping from the pine trees. My bees are doing well, so far; my first drones were flying on the 4th, two days ago. We had a heavy fall of sleet and snow on the 19th of March, to depth of 12 inches, that killed all the peach and maple blooms, which put the bees back considerably."

ROBERT T. JONES.

MARSHALL Co., KANSAS.—"Last spring I started with 6 stands of bees, five black or mostly hybrids. They increased to 13

strong swarms. My Italians brought 7 swarms, the young ones swarming three times. In the fall I got a nice lot of box honey. Willow and gooseberry are our best blooms for honey and pollen, willow commencing to bloom the last of April, and continuing two weeks. For fall, smartweed and buck-bush or beaver brush. I enclose some leaves. What is its name?"

REV. E. LEWIS.

[The leaf enclosed is very like the whortle-berry leaf, but we can not name the plant.—ED.]

LOGAN Co. KY.—June 9, 1876.—"I wintered 8 colonies in frame hives, on their summer stands. All came out alive and in ordinary condition—I fed about 60 lbs coffee A sugar syrup. Have increased to 15 colonies, and have taken 310 lbs of extracted and 50 lbs. of comb honey. Am using Root's extractor. It is just the thing. My frames measure 12x9 inches inside. I use 24 to the double hive. We have an unusual amount of white clover this season. I have received your premium queen. Cannot tell how I like her until I see her brood Will try for another club this season." T. E. SHELTON.

TODD Co., KY.—June 9, 1876.—"We have a tremendous growth of white clover (the only resource for honey in this locality) which makes our bees glad."

J. H. JOHNSON.

CALUMET Co., WIS.—"I will now make my report for the two last seasons. Commenced with eight swarms in the spring of 1874. Two very light, transferred in May, to my double walled hives. Increased by dividing, to sixteen, and one ran away. Took 336 lbs. extracted, and 600 lbs. comb honey, which retailed at 20 and 25 cents. Wintered in cellar, under the house, without loss. Bought fourteen more, making thirty in all. Transferred the fourteen in April and May. Spring late and cold. Divided in June and made twenty more. Hived sixteen in July, that swarmed; and made eight more in August, by dividing; making seventy-four in all. Took 2,750 lbs. extracted, (which sold for 15 to 18 cents, mostly 16 cents,) 1,125 lbs. comb honey, in small frames, (which sold from 22 to 25 cents), making 3,875 lbs., or 130 lbs. to the original thirty swarms. The honey of 1864 paid for the eight swarms, and all bought since, except $75 for hives. Income for care of bees:

3,875 lbs. honey	$ 660.00
74 swarms @ $10 each	740.00
	$1,400.00
	75.00
Total, less $75 for hives	$1,325.00

Profit each year over 300 per cent. Hive is double walled, with paper between; 16 inches long, 13½ wide, by 11¾ inches deep; 9 frames, bottom board double and loose; cap single. Not patented. I was 35 combs short to fill brood chamber. Had over 400 built this summer, also over 700 small frame combs in supers, which I *extracted*, they not being capped over. These will be of great use next season. Cut all drone comb from brood nest, as fast as built, using it to start combs in small frames for comb honey. The bees sometimes build drone combs three or four times in same place, but they will build worker in time by keeping them trying. Bees *will* swarm without drones or drone comb. Mine have repeatedly done so. I leave a little drone comb in a few to breed from. Bees are mostly hybrids, which we think are better than either Italians or blacks, although twice as cross. We tried the comb foundation, and like it. We wish our friends to build up a home trade for pure extracted honey. This we have done with success. We must help the dealers to introduce it. Instead of selling at 9 cents, get 16 cents, or even 12½ cents, the price of No. 1 sugar, at which price any amount can be sold. Our honey plants are, white clover, bass-wood, tamarac, (larix Americana), buckwheat and rape, also wild flowers. Our honey last season was from clover and tamarac, from June 20th to July 15th, then bass-wood to Aug. 3d, after which time we got no surplus, as the fall was wet and cold. Fed a few late swarms."

J. N. BLANCHARD.

HARTWELL, OHIO.—June 4th, 1876.—"My June number is on hand; *contents noted.* I cannot refrain from criticising some of the *sore heads* in the *bee business*, for the constant *growl* they maintain upon the subject of *strained* or extracted honey. Some of them take it for granted that if a man sells extracted honey, that it *must be adulterated.* It is true, a great deal of what is purported to be *pure honey*, is not honey at all, but the consumer can tell it from pure honey if he *tries* it before buying. I sell both extracted and box honey, and my customers like the *extracted* the best. Some few prefer the box, but the most of them ask for extracted. Let each honey producer sell pure honey, *and nothing else*, and he will very soon establish a reputation *for selling* pure honey, and thereby keep up his prices and his name at the same time. Please send my JOURNAL right on, and when my time is up, send me a notice of it, but don't stop the JOURNAL." ISAAC A. SMITH.

ONEIDA, ILLS.—June 12th, 1876.—"When I wish you to stop sending the JOURNAL to me, I will notify you. I like the A. B. J. so well, I don't wish it stopped. I have wintered all the bees I put into winter quarters last fall. I had nine stocks in good condition early in

spring, but for some reason, three of them lost their queens after having a good start in brood, and one made a failure on raising a queen and has not a fertile one yet. My others are in good shape, but have had to help these three. I have three nuclei besides the nine, and all doing well. I keep the Italian, and do not want any other. I use the extractor, and don't see how any one can discard it after once trying it. Many wishes for the success of the A. B. J." I. W. CRAMER.

SHERWOOD, MICH.—"As there have been complaints made, from time to time, through the columns of the JOURNAL in regard to the Chicago Honey House of C. O. Perrine, and his manner of doing business, I will give my brother bee-keepers the history of two transactions I have had with him. In the fall of 1872, I shipped on a contract made by Wm. H. Buell 400 lbs. of honey by express; after writing a number of letters, and waiting eight months, and beginning to think all was not as it ought to be, I concluded to make a trip to Chicago; found Mr. Perrine very busy, but very gentlemanly, who told me the weights of my honey had been lost, and had not remitted, being in hopes of finding them. He, however, paid my demand, and nearly made me think he was 'more sinned against than sinning,' although it had cost me $15 to collect $80. Again, about the 1st of Aug., 1875, I wrote him a postal, inquiring the price of honey. He answered: 'No market.' In October I received a postal, stating that he was paying 18 and 22 cents per lb. I at once shipped him between four and five hundred lbs., about two-thirds of which he paid 18 cents per lb., and the rest he allowed 12 cents per lb. At least three-fourths of the honey shipped him was clover and bass-wood; the rest, golden rod, catnip, and a small quantity of buckwheat, there being four acres within reach of my bees. At the same time one of my neighbors took his whole crop to Chicago and sold it for 20 cents per lb. cash; amounting to between three and four hundred dollars. A large per cent. of mine was whiter than his. Now, if my brother bee-keepers want to send their honey to him, it is their privilege, but I have done sending mine to the so-called "Chicago Honey House." C. E. SWAIN.

HARTWELL, O., May 3d, 1876.

DEAR EDITOR:— I see you notice in your May number a "Manual for Bee-keepers," by A. J. Cook. If it treats of house culture, please send me a copy. I should think some of you bee editors would endeavor to notice house apiaries to some extent, so that beginners in that method would learn something applicable to our system. You all seem to think that every bee-keeper uses the out-door system, and consequently your advice, etc., is based upon that theory. I know people who have been very successful with the house system, and would not use any other, and they certainly deserve some notice in the bee literature of the country.

My bees are doing finely. Last season was a very poor one with us; we had to feed or lose our bees. I have 13 stocks in fine condition, all Italians. My two houses will hold 40 stocks. I want to "fill up" this season and will do so by "artificial swarming." Is that right?

ISAAC A. SMITH.

[We do not remember seeing anything in Prof. Cook's Manual about *house* culture.

Personally we have had no experience with the house apiary, and until we have different information from what we now possess, we think we prefer our hives out doors in the summer, and down cellar in the winter.

We shall very willingly publish the experience of those who have tried the matter thoroughly. Novice went into it very enthusiastically, but with his usual frankness, admits much loss last winter.—ED.]

ALBANY, GA.—May 7, 1876.—"Last year I became interested in bees, sent for your JOURNAL, and in Nov. bought for $30, three hives said to be in perfect order, and having extra honey; on opening, I found one hive empty of bees, but alive with worms; the other two had about a quart of bees and many worms. I destroyed the worms, and fed the bees all winter, and now I have six fine hives, every frame full of brood and comb. Transferred one swarm, the others I took from natural swarms. Last week I went through the hives and cut out all extra queen cells, caring more for honey than increase of stock, and if we have a good season I expect to make a great quantity of honey. China berry, or Pride of India, sorrel, wistaria, and many sweet garden flowers, peach, plum and blackberry blossoms, give good pasturage now; later we have asters, golden-rod, and many I do not know the names of. Another year I shall plant a patch of buckwheat for them."

KATE L. BRIDGE.

SMITH'S GROVE, KY.—May 18, 1876.—"My bees are gathering honey rapidly from white clover; never saw a better prospect for a rich honey harvest. I have just received one of Dadant's Imported Queens. She is just splendid to look at; and if I carry out my present notions, will have as fine an apiary this fall, as there is in Italy. I want to attend the next meeting of the North American Bee Convention at Philadelphia." N. P. ALLEN.

DANVILLE, ALABAMA.—June 1, 1876.—"Bees are making honey very slow here this spring, owing to the blooms being killed by the cold snow in March. Scarcely any swarming yet."

J. J. WOODALL.

ERIE Co., O.—May 15, 1876.—"Bees have wintered splendidly in this section. They are strong in numbers and commencing to swarm. I hear of no bee disease in these parts this spring."

N. E. PRENTICE.

PEORIA, ILL.—April 25, 1876—"My bees are all right. I wintered 22 colonies in the cellar and 62 out doors. Those in the cellar did the best—they did not eat as much, and were stronger than those out of doors." HENRY BICKERTON.

NAPOLEON, O.—April 11, 1876.—"I went into winter quarters with 60 colonies of bees; part of them were made by putting weak nuclei together. I put on blankets and plenty absorbent material; put them up in a dry room, and three times during winter gave them a fly; had them on summer stands during the cold spell in March; lost two by starvation and two lost their queens. No dysentery this winter; which goes to prove that bees take the dysentery only when they are in a very cold place, and confined for a long time. Bees can always be wintered successfully, by keeping them dry and at the right temperature; my bees are in fine condition now. I fully concur in changing the time of the Centennial meeting of the National Society, to Oct. 25."

G. W. ZIMMERMAN.

CUMBERLAND Co., KY.—June 9, 1876.—"The JOURNAL is a great help to me; with its assistance I think I am doing very well. I commenced last spring with seventeen log gums, and have swarmed and transferred them into Langstroth hives, with an increase of 33, and have Italianized about one-half this spring. I killed one queen, and put in an Italian, and in four or five days I noticed they had killed her. I then introduced another and they killed her. The seventh day, I examined the gum, and found that she had a quantity of eggs, and they were still making queen cells. Why did they kill the two queens?" G. N. ALLEN.

[Bees will generally kill a strange queen without special provocation, unless they have been queenless for some time. —ED.]

KNOX Co., ILL.—May 8, 1876.—"Bees are not doing very well yet. Fruit bloom is coming on, but we have a great deal of cold, windy and rainy weather. Will have a splendid fruit crop, if the weather is fair." W. M. KELLOGG.

DUBUQUE, IOWA.—May 6, 1876.—"Wintered 29 stocks in an old ice house. They are in fair condition. Lost 4—one from queenlessness and 3 from starvation. The weather has been the worst for bees that I ever knew. It is all rain, wind, or cold. But a few days in April that bees could fly; and in this month, so far, but a few hours." GEORGE W. HORNER.

GRANT Co., WIS.—April 18, 1876.—"Two years ago I lost all but four stocks. The summer was a poor one and I could only increase to seven, and got no surplus. The next winter and spring I lost three; but last summer brought them up to thirteen strong stocks. They are now in good order, and I feel cofident of success this year." C. MARSH.

VAN WERT Co., O.—May 4, 1876.—"We have 120 stands of Italian bees. They are doing well, so far. Last spring we lost all but 26, and increased to 120; lost 9 in winter, and bought this spring to make up the loss. We have them in five different places. We anticipate a good year, and will give the AMERICAN BEE JOURNAL the result in the fall."

LEHMANN BROS.

BLAIR Co., PA.—June 8, 1876.—"Bees are swarming quite freely. Mine have increased from 15 to 21, and lots more to come. White clover is just coming in bloom. Have some working in honey boxes; intend to use the extractor on some colonies. A good many colonies died the past winter, in the neighborhood. I didn't loose any of mine; two of them became queenless early, but I united them. Those that lost their bees did not take the JOURNAL, or probably they would not." FRANK M. GLASGOW.

BEETON, ONT.—June 19, 1876.—"I have just commenced to remove the brood from my strong stocks, and insert empty comb and foundation, to prevent swarming. They began swarming on the 16th inst."

D. A. JONES.

BUTLER Co., OHIO—June 20, 1876.—"Bees are doing well here; the crop of white clover is abundant. A great many stocks died last winter and early in the spring." L. WILLIAMSON.

DAVIDSON Co., TENN.—June 19, 1876.—"Bees have done remarkably well here, until the past few days, which have been too wet. It is pleasant to-day, with the promise of fair weather. White clover is quite plentiful. We have about 100 colonies, all in Langstroth hives. We are selling extra honey at 12½ cents."

S. S. HALL.

LANCASTER Co., PA.—June 21, 1876.—"Bees are doing pretty well in this section of the State." PETER S. REIST.

HENRY CO., IND.—June 20, 1876.—"Bees are doing well in this section. I have 43 colonies of Italians, in good condition." W. N. NICHOLSON.

CLINTON CO., MICH.—June 21, 1876.—"I wintered 34 stocks of Italians in my cellar They came out in good condition; have 47 now, doing well; prospect is good for a large yield of honey."

IRA J. ANDREWS.

TIOGA CO., PA,—June 14, 1876.—"I was much pleased with R. M. Argo's article in the June number, and shall adopt his rule with my bees, viz.: "Pay as you go," and they shall pay for THE BEE JOURNAL first, for I desire its monthly visits continued. I have been a subscriber ever since Mr. Wagner first became its editor, and without meaning any reflection on past administrations, I must say that I consider it in the *best* hands now. Accept my best wishes for its success."

JOHN ATKINSON.

ALBEMARLE CO., Va.—June 19, 1876.—"I have fifty-five colonies—mostly good ones—and am directing attention mainly to box honey. I use simplicity Langstroth hives." J. W. PORTER.

MALVERN, IOWA.—June 12, 1676.—"In Dec., 1874, I bought five colonies at $20 each; all but one died in wintering. In the spring I got two more. I got four natural and six artificial swarms. Last fall I put 14 swarms into the cellar after having taken 256 lbs of honey from them. Ten came out in good condition this spring. One I think was queenless and three starved. Though March I fed them all, and until about the middle of April. On May 10 I had two natural swarms and the best one left for parts unknown, the next day. I have 14 now, and intend to have 30 this fall. My pets are more peaceable than when I first got them.

W. K. FOLLETT.

[Isn't the diffcrence in your handling them, rather than in the disposition of the bees?—ED.]

ATLANTA, GA., May 31, 1876,

Capt. J. A. Crawford was stung on the finger some two years ago, and came near dying from the effects of it, medical aid being called in to save his life. This time the doctor's skill was baffled. He was stung on the forehead May 24, 1876, and died in two hours. P. WINDSOR SMITH.

[Wm. G. Walton, Hamilton, Ont., also sends us a notice of the above case, and asks if we hear of many such cases. We think this is the first of the kind ever reported to the A. B. J.—ED.]

Notes & Queries.

Sun bleached beeswax comb foundation, is not fit to put into honey boxes, especially not to fill them with it. The sun gives the wax an undesirable flavor, which is readily noticed after the cells are lengthened and filled with honey. I send you some comb that has been built from Long's foundation. S. RUGGLES.

The samples received were handsome and white, except the yellow color gotten from the bees, particularly when the cells were fully built out. The smell was all right, and on testing a piece by chewing, it acted like any other comb, only it had somewhat of an oily taste, but not very strong. On chewing a piece which had been scarcely touched by the bees, a very little chewing sufficed to separate it into fine particles, very white, having none of the adhesiveness of beeswax but looking more like ice cream. The prolongation of the cells was of course the same as the bees always build, but what was the artificial part? Either it was not beeswax at all, (and we are inclined to this opinion) or it was utterly changed in texture. We do not think bleaching wax in the sun would so change it.

We certainly should not want to use such foundation in surplus boxes, even small pieces as starters. If such foundation as this is to be used, we certainly agree with *B. K. M.*, that it should be used only in the brood chamber, and indeed we doubt if we want it there.

How much should be cut off in cutting queens, wings? Have 47 swarms; lost one in wintering by starving, and three since. Some are weak still. Is melilot and sweet clover the same?

Naperville, Ills. C. KENDIG.

A queen has, like other bees, two wings on each side; clipping off one of the four will answer all purposes, but it may happen to be easier to clip off at one stroke a part of the whole four wings, in which case from one-fourth to nearly all may be taken off. Some adopt a system of marking a queen's age by clipping off one wing as soon as she begins to lay, and an additional wing for each year of her age afterward. Melilot is commonly called sweet-clover.

1. Will eggs laid in worker comb produce drones if removed by the bees to drone comb?

2. Is there any difference between an egg that produces a drone, a queen or a worker bee?

In connection with the above I would give you my own observations. This spring, about 9th to 12th of April, on examining one of my "black colonies," I found it very strong and queenless, (*I had examined* this *two* or *three* times previous) so that I know there was no queen nor *fertile worker*. I gave it 1 frame of brood from my Italian colony, all *worker comb*, and as the colony was weak from which I took it, I have every reason for believing every egg would have produced worker bees if left with the parent hive, for at this time there are no drones nor drone brood in it, and on examining the hive this morning, I find a fine young Italian queen, a fine lot of young Italian bees, about as many as would hatch out from a piece of comb six to seven inches square, a good force of black bees, and on the adjoining comb some *drone brood*, some apparently just from the cell, and some drones one to three days old, and some cutting out, and every drone, or nearly so, a well *marked Italian.*

Now the above tends to show that an egg laid by a fertile queen (one that has met the drone and been impregnated) will produce either a *queen*, *drone*, or *worker bee*, and that the bees alone control the fecundation of the eggs, and that the queen has no control over the sex of the egg.

W. G. SMITH.

St. Louis, Mo.

A pretty strong case is here made out, but there may be more than one way of explaining the puzzle, without conflicting with the generally accepted theory, that an unimpregnated egg will produce only a drone, and an impregnated egg only a queen or a worker. We should like a little further history of this case. In what stages of progress was the drone brood? Was there any brood not sealed over, either drone or worker? Had any frames of this hive ever before been exchanged with the Italian hive?

It has been suggested to me, to treat foul-broody hives and combs, and also moldy combs and empty combs, hung away over winter (to protect the latter from moth worms), with a solution of potash or concentrated lye. Can you or any of your readers tell me in what proportion the lye or potash should be diluted, whether it will destroy foul brood, mold, moth worms and moth eggs, what effect it has on the comb, if this should be rinsed only with water or (as was also suggested) with a weak solution of sulphuric acid, and how the bees will accept hives and combs thus treated? I shall experiment myself, and report results.

WM. MUTH-RASMUSSEN.

Los Angeles, Cal.

We have no experience in the use of potash as cleaning agent for the combs, or for preventive against foul brood, or moth. Will some of our readers give some light on this subject?

Instead of trying potash, if we had any fears about combs being infested with foul brood, we would use salicytic acid to disinfect them.

Take 1 ounce salicytic acid (crystallized) and dissolve it in 8 ounces of pure alcohol. Preserve the liquid in a bottle well corked. To spread the acid upon the combs dilute it in pure distilled water, one drop of acid for 17 grains (avoirdupois) of water; the water should be warm at least at 60 degrees to prevent the crystallization of salicytic acid. Then with an atomizer, project the watery spray in the cells. Do not prepare the dissolution beforehand, for the salicylic acid would crystallize.

To clean combs of moth worms fumigate them with sulphur. Prepare sulphured wicks, by dipping some strips of coarse cotton cloth in liquid sulphur. Suspend the combs in a box and light a bit of your sulphured wick under them. Renew the operation if some eggs have escaped and hatch. Then preserve the comb in a well closed box.

Please give me the proper management of honey barrels that were used for honey last year. I have some barrels that were made last season, of white oak timber, and filled with honey, and when they were emptied last fall I bored a gimlet-hole in one head, close to the side, and set them up and let them drain until the last drop was out. Are they in order for honey this year?

A BEE-KEEPER.

If the barrels have been kept in a dry place since emptied, they are probably all right. If not, a good scalding would be the thing. If they have stood in a damp place with a little honey in them they may have soured, in which case it might be well to fill up with water and soak a few days, then dry out and scald.

To wax the barrel, pour in beeswax *hot*, bung up tight; turn the barrel on

each end and roll over and over, in such a way as to bring the hot wax in contact with every portion of the inner surface of the barrel; then knock out the bung and empty out the wax. Be in the biggest kind of a hurry from the time the wax goes in the barrel till it is all out. A mixture of beeswax and rosin has been recommended for waxing the barrels; also a mixture of equal parts of beeswax, rosin and tallow.

At this season, is the hive ever without brood or eggs? I extracted from a hive last week and found none; I gave them eggs, and examined yesterday, and found they had done nothing towards raising queens, but to my surprise, I found a few eggs. Was the queen in the hive all the time, but not laying? To-day I extracted from another and found it in similar condition—no brood nor eggs, and on examination I found the queen in the hive. Why is this? I have been keeping bees for four years, but never saw the like for honey. B. M. LINGLE.

Orange Co., Ind., June 23, 1876.

If you are not a very careful observer you may have overlooked eggs or brood, which were in very small quantity on account of the great yield of honey; the cells being so filled with honey as to leave little room for the queen to lay.

If there was no brood in any stage, sealed or unsealed, then the probability is that the colony had lost its old queen and the new one had just commenced laying when you found the first eggs.

I have an Italian queen that lays several eggs in each cell, and I have counted as many as eight. She is a queen that I raised last summer, and laid the same then as now. She is very prolific. Can you tell me the cause of depositing so many eggs in each cell? G. THRASHER.

Williamston, Mich.

A lack of room will sometimes make a queen lay more than one egg in a cell. We should try increasing the number of cells in which she can deposit, increasing the strength of the colony so as to have bees enough to care for all the brood that may hatch from her eggs. Possibly there is too much honey in the hive. With bees enough and empty cells enough we think she will hardly waste time putting more than one egg in a cell.

What is the matter with my bees? Young bees, half-grown are dropping down by the handful. I find several magots ½ inch long at the bottom of the hive, and up on the inside. I clean and brush, but it does no good. I use the common box hive. I am a beginner. What is the starting point to be successful in the bee business? Large prairies, lots of flowers, wild roses, sumac, &c.

L. S. W. FOLSOM.

Caddo, Indian Territory, June 17, 1676.

That dreaded enemy, the moth, is probably the cause of the young bees being thrown out. The worm eats its way through the cappings of the brood and the young bees are thus destroyed and then thrown out. If you will transfer your bees to a frame hive, then you will be able to help them by picking out the worms with a sharp pointed knife. A strong colony will take care of itself, especially if Italians.

You have already taken a good step as a "starting-point," and that is, in getting some bees to begin with. Another step is to get a good book on the subject of bee-keeping. Prof. Cook's little work (30c) is the most fully up with the times, and afterward you might add one of the larger works of Langstroth ($2.00), or Quinby ($1.50). If you want to be thoroughly grounded in the Dzierzon theory so as to pursue the business most intelligently, we cannot do you any greater favor than to recommend you to get the first volume of the AMERICAN BEE JOURNAL, ($1.00) which contains the fullest discussion of the Dzierzon theory be to found in the English language.

Our New Club Rates.

We will send one copy of THE AMERICAN BEE JOURNAL and either of the following periodicals for one year, for the prices named below:

THE AMERICAN BEE JOURNAL and Novice's Gleanings for	$2.50
King's Bee-Keeper's Magazine	3.25
Moon's Bee World	3.25
All four American Bee publications	5.00
British Bee Journal	3.50
American Poultry Journal	2.75
The Chicago Weekly Tribune	3.20
The " Weekly Inter-Ocean	3.20
The " Weekly Journal	3.20
The Western Farm Journal	3.70
The Prairie Farmer	3.70
Purdy's Fruit Recorder	2.50
Voice of Masonry	4.25

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, AUGUST, 1876. No. 8.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

GLEANINGS.

COMB FOUNDATIONS.—Novice says: "A small amount of yellow wax—1 part in 4—will temper the paraffine so that it works beautifully; but with the white wax bought for perfectly pure, of the wax bleachers themselves, we are obliged to use *two* parts of wax to one of paraffine. This looks very much indeed as if the white wax, were *not* wax, but it may be well to exercise charity, for the bleaching process certainly raises the melting point, and *may* likewise change its tenacity. Well we were going along beautifully, putting pieces into the hives meanwhile, which worked as nicely as could be desired, until our very hot weather of the 13th and 14th, when we were alarmed to find the cells stretching themselves downward into ovals instead of hexagons, and it was really amusing to see the troubled look on the countenances (?) of the young bees as they surveyed the work, after repeated attempts at patching up and repairing. The sight of their discomfiture created some merriment among our juveniles, but we gave a faithful promise to the bees, which same shall be extended to our patrons, that hereafter they should have material that would stand a degree of heat fully equal to that of yellow wax at least.

"We can get pure white wax for 50 cents, and foundations made of this will doubtless answer every purpose; but unless the paraffine can be worked in we cannot well make the price less than $1.00 per lb., whereas if the paraffine can be made available, we hope to be able to furnish it in quantities, as low as 50c.

"Further experiments show that one part of yellow wax to three of paraffine is so nearly white that it will never be distinguished from that made with white wax; and the melting point is so high, that they will stand safely, exposure in the sun that natural combs would not. If the matter can be arranged so that we can use one article for both brood and guide combs, it will save considerable trouble; and when we get over the present rush, we hope to furnish this article for 50 cents in quantities of 10 lbs. or upwards."

HIVING NATURAL SWARMS.—"Keep a green bush tied to the teeth of a common wooden rake, and a queen cage tied to the bush. When the bees swarm, catch the queen and put her into the cage, then hold her up among the bees, or fasten the rake near where they are clustering, and your swarm is in very convenient shape to handle. Your wife can do it all, after a little practice."

NOVICE'S HONEY BOX.—"The top and bottom are wood, and are about 3-16 in thickness. A small hole is drilled ¼ of an inch from each corner, and a long, slim screw is put through tops, and screwed into bottoms. By turning these screws down it is plain that you can draw the wood so firmly against the glass, as to cause them to sink slightly into the wood. The screw is just inside the glass which rests against it. If you wish it more ornamental, fold square a ½ inch strip of tin, that is 1-16 longer than the glass; this will cut into the wood, under pressure of the screws, and holds the glass in place, even if it be not cut very accurately. To give you an idea of how cheaply this can all be made, we will remark that the holes are drilled in a block of wood, cut to the exact size, before the thin boards are ripped off. The entrance slots (3) are cut in the bottom boards before they are ripped off from a block in the same way."

BEE WORLD.

EXTRACTING HONEY.— Rev. M. Mahin, in an excellent article on extracted honey and the use of the extractor, says:

The best time in the day to perform the operation is the time when the bees are busiest gathering honey; and that depends upon the sources of supply. Some flowers yield honey only in the morning, as buckwheat; others yield most abundantly in the heat of the day, as white clover. When bees are gathering honey plentifully, extracting can be done anywhere, and robbing will not be induced, and no bees will disturb the exposed honey. At other times great care is necessary. The hives must be kept open as short a time as possible, and the extracting must be done in a room that bees can have no access to. At such times all opening of hives should be done very early in the morning before many bees are astir, or late in the afternoon when activity has mostly ceased.

The *World* complains of W. H. Furman and T. H. B. Woody, who owe it for advertising and do neither pay nor answer letters, asking for payment. The latter owes the A. B. J. over $25, but it can get no word from him of any sort.

BEE-KEEPERS' MAGAZINE.

Novice will be after the *B. K. M.* with a sharp stick, as it was the last one of the monthlies to reach us this month; not getting here till the 20th.

THORNS FOR TRANSFERRING.— "While at our office a few days since, Capt. J. E.

Hetherington stated that $1,000 cash would not induce him to abandon the use of thorns in transferring and go back to the ordinary methods now in use. For uniting the small pieces of comb these thorns are used as dowell pins, and being very hard and smooth, the bees never gnaw them out. They are also inserted through the side bars of the frames into the edges of the combs, and transfer frames should have the side bars pierced to admit the thorns before commencing the operation of transferring."

Capt. Hetherington is high authority, but what use can he have for so much transferring? Most men with an established apiary could take the $1,000 cash and buy all the stocks, already transferred, that they would ever want to transfer.

ARTIFICIAL TABLETS.—An article written by J. Mehring for the *Bienen Zeitung*, for March, 1859, is translated for the *B. K. M.*, giving some account of comb foundation, or as Mr. Mehring expresses it, "artificial tablets," invented by him. He does not seem to claim so much for the saving of wax, as for the increased amount of ground upon which the bees can be actually at work, instead of the majority of the bees hanging idly in festoons with only a small number actually at work on the newly begun comb. He says, "One thinks of a field in which potatoes are to be hilled, and at every hill imagine a workman. Thus may it well be expected that the work will be sooner finished than if only a few workmen should commence at one end, while the majority were obliged to stay hanging about the field." As he could use no extractor at that time he did the next best thing, and says, "As the bees began to seal the honey in these beautiful honey combs, and I, so to speak, thought them ripe for the harvest, I took a sharp, crooked knife, shaved off the cells built by the bees, together with the honey, to the middle wall, and then hung the original artificial tablet again in the bee hive, while the building up was carried once more extremly rapidly forward."

APICULTURE AT THE CENTENNIAL.—R. McKean Jones says "The display of apicultural supplies at the Centennial Exhibition is most lamentably deficient; indeed, were it not for the efforts of one or two foreign exhibitors, there would be scarcely any representation at all." At the time of his writing, J. S. Harbison and J. S. Coe were the only American exhibitors, and he remarks "In consequence of this neglect of American bee-keepers, the small number of exhibits which are to be found in the Exhibition are so scattered that it is almost impossible to compare them intelligently. As the matter stands at present every nation that makes any display whatever of apicultural instruments and supplies is in advance of this country." He justly thinks that this will give a false impression in view of the great advances that have been made in this country.

PATENT REVOKED.—The *B. K. M.* says the patent granted C. O. Perrine on the Weiss foundation *machine* has been revoked.

BRITISH BEE JOURNAL.

So far, the season seems to be not a very good one in England, but they are hoping for better things in the latter part of the season.

Bee shows seem to be quite an item in England. The advertisement of the third exhibition of the British Bee-Keepers' Association with the schedule of prizes occupies a page and a half, prizes running as high as five pounds sterling. It looks rather odd to see a prize offered for "the best and cheapest skep for depriving purposes," by which we understand one without movable frames. Speaking of the prizes for hives the *B. B. J.* says:

One notable feature we have had the satisfaction of introducing as regards hives, which is, that all those entered for competition in the various classes (for sale) shall be fitted with guides ready for use. This at first may see a trifling innovation; but as every exhibitor will be required to guarantee that he will supply hives to pattern, etc., it really means that the onus of fixing guides shall in future lie with the vendor, instead of the purchaser. This, we feel, will be a great boon, especially where hives are supplied to cottagers, or where the system is used for the first time; and as skilfull hive-makers will be able to fix the guides at a minimum cost, one of the 'bothers' in the bar-frame system will be got rid of, and the principle will, we trust, prove more generally acceptable since, with very little care, straight combs will be the rule and not the exception.

This is a step in the right direction. Can we not go a step father and have hives furnished with frames filled with comb foundation—always provided that foundations prove a success?

A correspondent of the *British Bee Journal* sends to that paper larvæ of the wax-moth for information, saying, "I showed them to a very intelligent and practised bee-keeper, who could give me no information on the subject." That correspondent could not keep bees very long in this country without making the acquaintance of the aforesaid pest.

WINDER'S QUEEN CAGES are on sale at our office. These cages are made of tin and wire cloth, having at one end provision for holding a piece of honey comb or a sponge filled with syrup or water. Over this is fitted closely a tin cap or cover.

Honey Prospects.

From present reports the honey crop of 1876 will be much beyond the average. Through sections over which we have passed in Illinois and Iowa, the ground was fairly white with clover, exceeding anything we have ever seen. The principal anxiety with many, will be to find a market for their honey. We advise patience. Those who are unwilling to wait, but send at once all their crop to dealers or commission merchants in the large cities will not realize as much as those who take time to work off their crop on the markets nearer home. Dealers in the large cities will only buy now at very low prices, for the supply will for the next month or two be far beyond the demand. Producers can better afford to hold the crop than can the dealers. A large number can more easily hold $100 each than can a few dealers $10,000 each.

The special danger in a season like the present is that in many hives there will not be

ROOM FOR THE QUEEN.

The very prosperity of some colonies will prove their ruin. As fast as the young bees hatch out, the cells will be filled with honey, leaving no room for the queen to lay; so that the stronger the colony may be at such a time, the weaker it is bound to be afterward, without help from the owner. But few young bees will be left in the hive, the owner "hefts" it and is pleased with his heavy stock, but these old bees die off through the winter and spring, combs filled with honey not being the best to winter in, and before the next season commences, the remark is made, "I lost one of my best stocks; I can't account for it, for they left the hive full of honey." See to it then that at all times at least one or two of the outside combs shall be kept emptied by the extractor so long as honey is coming in. Even at this time of the year it will pay you to buy an extractor, if thereby you can save the only two stocks you may have.

☞ Printed pamphets and books (not circulars) can now be sent through the mails at one cent for each two ounces or fraction thereof. The postage on the third-class matter (merchandise, etc.) remains unaltered, one cent for each ounce. The sender of any article of the third-class of mail matter may write his or her name or address therein, or on the outside thereof, with the word "From" above or preceding the same, or may write, briefly, or print on any package, the number and names of the articles enclosed.

CENTENNIAL HONEY SHOW.—We learn that the June display of honey at the Centennial was an utter failure. Probably one reason for this lies in the fact that bee-keepers were very busy at that time, and many of them had as yet taken very little honey.

The special display set for Oct. 23 to Nov. 1 comes at a time when there will be more leisure and the crop will be mainly harvested. If managed rightly there may be a grand display at that time. We hope there may be no half way business about it; that there may be a creditable show, or the thing given up entirely.

Those who contemplate exhibiting, if they have not already obtained all desired information, can do so by addressing Burnet Landreth, Chief of Bureau of Agriculture, Philadelphia.

☞ We have received a few complaints that the JOURNAL for June was not received. The fault must have been with the Post Office Department. If the JOURNAL does not arrive during the month, a postal card should be sent to this office stating its non-arrival, and giving the name and address in full, and *at once* we will send another copy. When it is delayed several months we *cannot* always send the number required. There is no use of delay, for we send out each issue in time to reach every subscriber during the month, even those afar off in Italy, Germany, England, France, Russia, and Australia. They should reach every part of the United States and Canada before the 10th.

☞ As we wish to give all the news concerning the production of comb foundation, we would invite any one who may have bought and used one of King & Slocum's Patent Machines, to send us a statement of results.

☞ Our Canadian subscribers will be pleased to learn that hereafter they can obtain Postal Money Orders on the United States, thus securing absolute safety in sending remittances.

☞ We have received a very interesting account published in the Utica (N. Y.) *Herald*, of the apiary of R. Bacon, for the last season. We should be pleased to have a report of Mr. Bacon's success during the present season.

SEND NAMES.—Our friends will greatly oblige us by sending the names of such of their neighbors as keep bees and do not take THE AMERICAN BEE JOURNAL, and we will send them a sample copy.

Saugatuck, Mich., June 13, 1876.—"Last Friday I transferred and divided a heavy swarm of bees; making two new swarms in new hives. The queenless colony received a little more than half the bees and half the combs. Seven hours after dividing I inserted a queen cell in the queenless colony. The next day the bees in the queenless colony hung out heavily as though crowded for room, though they could not have been. The colony with a queen was quiet and contented. Sunday a heavy swarm issued from the queenless colony before the queen had hatched. Can you explain the cause? Do swarms often come out without a queen? This swarm acted as though it had a queen, but where did she come from?

Would you advise moving bees four miles to a better honey location this month (June)?

Have 35 swarms, all in good condition. Some swarms have capped 40 lbs. of white clover honey in boxes.

Wintered out doors by packing hives in straw, in boxes 4 inches larger all around than the hives. Did not lose a swarm. All, even the very weak ones seemed in better condition in the spring than last fall.

How can second swarms be prevented from issuing?

Are queen cells always started before the first swarm issues? WALTER B. HOUSE.

Without your noticing it there may have been queen cells beside the one you inserted, and a little older. As soon as the first queen hatched she may have left with a swarm. We do not think a swarm would come off without there being any queen in the hive. You do not say whether the swarm which came off was hived and remained. If so they had a queen. Sometimes a swarm will leave and the queen being unable to fly will fall on the ground near the hive, but in such case the swarm will return to the hive.

It may pay to move bees four miles at any time, provided there is gain enough in the pasturage. We should want all the honey extracted before moving at such a season, and would want the bees to have plenty of ventilation on their journey.

Formerly it was supposed that bees would never swarm without having queen cells started, but since the coming of Italians there are many exceptions to the rule.

Second swarms can be prevented by cutting out all but one queen cell. It is not easy to do this in all cases, for sometimes a cell may be built in such a way as to escape ordinary observation. With box hives it is almost impossible. An easy plan with either box or frame hives is to set the new swarm, as soon as it is hived, in place of the old one, removing the old one to a new position. All the bees which go out to gather honey, for a day or two, join the new swarm on their return, thus strengthening the new colony and weakening the old one so much that it will not swarm again, allowing all queens but one to be killed. As immense numbers of young bees are hatching out in the old hive the places of those that have been left will soon be made good. We have never experienced any loss from this course, but the *British Bee Journal* advises care for fear the great depletion may leave the brood in the old hive unprotected, so that it may be chilled. Possibly, the difference in climate may have something to do with it, but we should have little fear in our hot, dry climate, especially as at swarming, the brood is mainly sealed, which requires less protection than that which is unsealed.

Centerville, Iowa, June 19, 1876.—I have 8 Italian queens all reared this spring. The queens were hatched May 31, and no eggs were seen in hives or boxes in which I reared my queens until June 8; I examined them every day. Then I found from 1 to 6 eggs in a cell. This I found in 3 of my small boxes, and the hive that I hatched my queens in. I write to ask whether this is a common occurence with young queens?

When is the best time to ship bees? Will it not do to ship bees in September or October? If so, give directions how to ventilate them in the Langstroth and American hive, so they will go through safely from Centerville, Iowa to Central or Southern Kansas.

A. O.

Young queens do not usually commence laying until several days after hatching out.

Bees are usually moved in spring. More care would be necessary in September or October as the combs would then be heavier. Ventilation should be given by wire cloth tacked on at the portico or entrance, and also space given on top for air, covered with wire cloth.

Baldwin, Kansas, July 12, 1876.—EDITOR BEE JOURNAL: I send you a plant for identification. It grows abundantly on the prairie where the grass has been trodden out. It grows from 2 to 3 feet high and continues in blossom for a number of weeks. The bees are working on it and it seems to afford considerable honey. Bees are now having a "sweet thing of it" on many wild flowers and also on corn. This will be a fine honey harvest. S. S. WEATHERBY.

The plant, upon examination, proves to be one of our wild verbenas, known to the botanist under the name of *Verbena Stricta*. I have frequently heard bee-keepers speak of the verbenas as valuable for honey, and from this I suppose that they must be so, but still they certainly cannot be ranked with the best. C. E. BESSEY.

☞ The Marshalltown *Times* says: "A warrant was lately sent to the sheriff of Polk County for the arrest of Mrs. Tupper, who had been indicted by the Scott County grand jury for forgery. It was sent back with the following return inscribed upon its back: '*Non inventus est lit outus to Dakotabus.*'"

Correspondence.

For the American Bee Journal.

Improvement of the Italian Bees.

My ideas about the improvement of the Italian bees differ so much from those expressed by Mr. Geo. Thompson, in the AMERICAN BEE JOURNAL for July, that I want to make some remarks about it.

He says, at first, that he has yet to learn that the bee-masters of Italy have paid much attention to the improvement of the Italian bee.

Italy is not so far behind our time in bee culture as Mr. Geo. Thompson seems to imagine. They have in Milan a bee journal —*L'Apicoltore*—conducded with great talent and which has for contributors as good bee-keepers as can be found in this country. This journal was founded nine years ago by gentlemen devoted to bee culture, and by the devotion and learning of its contributors it is improving in every sense of the word. Of course with such a guide the improvement of bees could not be left aside; and I know personally many bee-keepers of Italy who choose always their best and most prolific queens to breed from.

Mr. Geo. Thompson adds: "There are dark, even black bees in Italy." Dark bees? Yes! Black bees? No! Last year, in order to help a too well-known lady, who had sent hybrid bees as imported, Rev. H. A. King said, at the Northwestern Bee-Keeper's Meeting, that there were hybrid bees in Italy. I have, in the AMERICAN BEE JOURNAL for March, 1875, dared him to prove his assertion, offering to pay $200 if he would name an Italian bee-keeper having hybrid bees in his apiary. Mr. King did not answer my offer. Now I extend this offer to those who think there are black bees in Italy. I have not, indeed, traveled in the whole Italian continent, but a well known queen breeder, Mr. Mona, who inhabits Italian Switzerland, and would have been benefited by finding black or hybrid bees outside of his region, wrote in the French paper *L'Apiculteur*, that he had spent two months traveling in all parts of Italy, and that from the Alps to Brindisi, he had found everywhere the genuine Italian bees, with such differences only as will be remarked between one family and another or between the bees of the same colony.

If this statement is true, and there can be no doubt about that, the Italian bees are a fixed variety; the proof of it lies in the fact that this variety reproduces itself in all countries where it is introduced, foggy England as well as in this warm and sunny country.

That the Italian bee can be improved in color I do not deny; but that the improvement in color be the first to be aimed at I cannot admit, for the matter of color can be overdone.

The first queen that I introduced, about ten years ago, in my apiary came from a well known bee breeder of this country, who had got his stock from Dzierzon. This queen was very yellow, yellow from the corslet to the tip of the abdomen. She was introduced in one of my colonies about the middle of October and produced very yellow and handsome bees. Yes, more light in color than the average of the workers of imported queens. In the following season I raised some 24 or 30 queens to stock with them my apiary, numbering then about that number. I could not hope to get queens purely fertilized for I was encircled by a great many black stocks. Imagine my astonishment when I saw many of my young queens producing workers with three yellow rings, yet some of these queens had mated when not a drone could be found in any pure colony; and I was sure there was not an Italian drone within fifteen miles from my apiary. It is true these seeming pure bees were not so well marked as those of my pure queen, but nine out of ten bee-keepers would have pronounced them pure.

This fact led me to search outside of the markings for a reliable test of purity, and after a few researches I concluded that the best test was the deportment of bees on the combs when they are out of the hive. The following year I had the pleasure of raising a few pure queens, but among them was one producing unfertile eggs and one drone laying. I thought that these mishaps were the result of in-and-in breeding, and resolved to import bees direct from Italy.

Now how was it that my queens mating with black drones would produce all workers with three yellow rings? I think I am able to explain it. Dzierzon, by a careful selection of queens and drones, had produced a strain of bees very light in color, he even succeeded in producing workers with four wide, yellow rings. His bees were so yellow that the mating of his queens could not have the same effect on the progeny as if the color had not been so much improved; and a queen breeder, relying on the color only, could be led into error, so as to consider as pure or very nearly so a queen having half black blood in her veins. No doubt the daughter of an imported queen, which has not been subjected to such an improving, if mating with a black drone, will show the impurity of the mating and will never deceive her owner. The queens which have mated with pure drones, and these queens only, will seem pure, all the impure blood being visible in the progeny. The number of pure impregnated queens will be smaller, but there could be no mistake about the queens who are fit for reproducing or perfecting the race.

Now as the bees are not only kept for their color, but for their qualities as honey-gatherers, the first improvement to be secured is the activity of the workers and the best laying capacities of the queens.

I do not concur with Mr. Geo. Thompson when he says that a queen is always prolific enough if the conditions of the hives are right. I think that very few amongst the old bee-keepers will sustain this statement. I have often seen queens which could never fill their hives with brood, while some others in the same circumstances lacked room every season. Of course the last gave plenty of honey while the others could some years hardly get enough for winter. I, therefore, conclude that the main quality for a queen is prolificness, the second quality is energy and mildness of her workers; and at last, color. For years I have been working with these aims in view and it would be hard to convince me that I am not on the right track.

CH. DADANT.

P. S.—Mr. Geo. Thompson says also that

some queens were imported from this country to England. It is possible. In the *British Bee Journal* no one advertises home-bred queens, for the imported are the only ones relied on as pure by the English bee-keepers.

Since I speak of the *British Bee Journal* I will ask Mr. Abbott why in England they call the Italian bees Ligurian bees?

For the American Bee Journal.

Two Things Proved by Experience.

I have recently made two observations in my bee yard which are worth while to be reported, proving conclusively two points, viz.: that bees transport larvæ from one comb to another, and that bees swarm without a queen.

On July 1st. at 2 p. m., a fine swarm issued and settled on a young tree, in such a position that I had to bag them and empty out in front of the hive, which contained one frame of brood, three empty combs and four empty frames. The bees went in only reluctantly, which showed that the queen had not entered yet. My son, who assisted me, found her in an outside cluster, and capturing her by the wings we tried to introduce her by a hole in the honey board. The corks fitting too tight, I could in the hurry not move any. By trying to introduce her through an opening made by moving the honey board, she was caught and squeezed between the honey board and top of hive. Although I could not perceive that she was crushed, yet she lay motionless in my hand. I could see only a faint moving of her legs. Thinking she might yet recover, I laid her carefully on top of a frame, closed the hive, drove in the balance of the swarm and moved it to its final place. I spread a bed sheet in front of the hive, knowing that the queen if dead would soon be thrown out. Next morning, July 2, she lay dead on the sheet. On opening the hive I found no queen cell commenced yet, which made me think that perhaps there had been two queens. Next morning, July 3, I found on the brood comb several commenced queen cells. I then saw that by an oversight one of the empty combs was a clear drone comb. It hung next to the brood comb. On lifting it out I saw it was full of commenced queen cells. On the side next to the brood comb I counted 37, on the other side 7 cells. As the brood comb was from a hybrid stock I looked for a pure Italian queen cell, which I soon found, two cells being close together. Inserting these into the brood comb, I destroyed the commenced cells and took the drone comb with the 44 cells into the house. On examination I found 30 queen cells ⅛ filled with the white queen jelly, and imbedded in it a worm in each of them. This I think is a positive proof of the ability of bees to move grubs as can be thought of. The drone comb had been in the house since October, 1875, had been built in the side room, was full of honey and emptied by the machine, put back for a day to be cleaned by the bees and then put away until now. The bees had no queen, as I killed her, they made all the cells, filled them with queen jelly and transported 44 grubs from one comb to another in 24 hours. On July 5, a queen had emerged from one of the introduced cells, and the other was destroyed.

The other observation was this:—June 24, I saw a little swarm on the wing which presently settled on a low branch of a tree. There were only perhaps a quart of bees. I perceived at once that they were none of my bees, as they were entirely black. Their behavior was very remarkable. Scarcely had they settled when they wildly dissolved to alight again on the nearest hive, evidently trying in a wild manner to enter from all sides. They showed that they were hungry, awful hungry, so I dropped a little honey on top of the hive they beleaguered. You ought to have seen the eagerness with which they fell upon the honey. The idea struck me to experiment with this starving swarm. I dropped honey on another spot and watched closely for the queen. There was none. I then placed an empty hive near by, removed the honey board, and dropped a little honey on the bottom of the hive. In two minutes every bee of the swarm was collected on the bottom of that hive. Giving them a small brood comb with a closed queen cell and an empty comb, I put in a partition board, closed the hive, and lo, the bees have remained. They have now a fertilized, beautiful yellow queen, and I expect to make it before fall a good swarm full of young bees, by feeding and introducing brood combs.

Sigel, Ill., July 6, 1876. CHAS. SONNE.

For the American Bee Journal

Southern Kentucky Bee-Keeper's Association.

The following is a condensed report of the proceedings of the Southern Kentucky Bee-Keepers' Convention, which met at Smith's Grove, Kentucky, June 1:

The convention was called to order and opened with prayer by the President, Dr. N. P. Allen. Calling of roll dispensed with. The minutes of the last meeting read and approved.

The Secretary, H. W. Sanders, announced to the convention the death of one of its members, R. W. Stithe, of Hardin County, Kentucky. Whereupon the President appointed the following committee to draft appropriate resolutions on the death of Brother Stithe: H. W. Sanders, N. H. Holman, W. E. G. Allen.

The following committees were then appointed:

On Apiarian Supplies on Exhibition—L. P. Smith, W. W. Wright, C. N. Allen.

On State of Bee Culture—R. A. Alexander, I. N. Greer, Dr. S. T. Botts.

On motion, Convention adjourned till one o'clock, P. M. Dinner on the ground.

The convention met at 1 o'clock P. M. Calling the roll was dispensed with. The journal of the morning session read and approved.

The following reports were made:

We, your committee, appointed to draft resolutions of respect to the memory of our worthy brother, R. W. Stithe, of Hardin county, would beg leave to submit the following:

WHEREAS, It has been the will of our Heavenly Father to remove from our midst our beloved brother R. W. Stithe, of Grand View, Hardin county, Kentucky;

Resolved, That in the death of Brother Stithe, we have lost a true and worthy

brother, a humble Christian, and a good citizen.

Resolved, That we tender our sympathies to the family of the deceased, and would entreat all to be ready for the messenger, Death; for we know not how soon we may be called to that bourne from whence no traveler has ever yet returned.

Resolved, That these resolutions be spread upon the records of this society, and a copy sent to the family of the deceased.

H. W. SANDERS, }
N. H. HOLMAN, } Com.
W. E. G. ALLEN, }

A communication from Chas. F. Muth, of Cincinnati, O., was then read by the President. On motion, the thanks of this society were tendered Mr. Muth for his valuable communication.

The Assistant Secretary received a communication from Charles Dadant, of Hamilton, Ills., on Artificial Swarming; the thanks of the society were tendered Mr. Dadant, and the Secretary ordered to have the article published.

The Committee on the State of Bee Culture made the following report:

Bee culture is in a prosperous condition in a number of counties in Southern Kentucky. Since the organization of this society many of our best citizens have turned their attention to bee-keeping, and have transferred their bees from the old log and box hive to the movable frame hive. Many of them are reading the AMERICAN BEE JOURNAL and text books, and standard works on bee-keeping, and are thereby getting knowledge that will enable them to make bee-keeping a success. The Italian bee is being introduced into a number of apiaries, and, with the rich honey harvest now on hand, we see no reason why our land should not actually flow with honey.

R. A. ALEXANDER,
I. N. GREER,
DR. S. T. BOOTS.

The Committee on Apiarian Supplies on Exhibition made the following report:

We would report that there are on exhibition, from Thos. G. Newman, of Chicago, Ill., bee veils, honey knives, glass honey boxes, rubber gloves, artificial comb foundation, and German bee sting cure; from C. F. Muth, Cincinnati, O., bee-hives, honey knives, honey jars, bee veils, queen cages, and straw mats; from R. R. Murphy, Fulton, Ill., honey machine; Mr. Hamilton, of Glasgow, Ky., has on exhibition a patent bee-hive. We take pleasure in recommending to bee-keepers the hives exhibited by Mr. Muth—they are Langstroth hives; we were pleased with his honey knives and queen cages; the glass jars are very nice for marketing extracted honey; the straw mats for winter covering, we are of the opinion, would answer an excellent purpose. The honey machine of R. R. Murphy we can recommend as an excellent machine. We cannot say as to the value of the other articles on exhibition, but would recommend a trial of them by our bee-keeping fraternity. Respectfully submitted,

C. N. ALLEN,
L. P. SMITHE,
W. W. WRIGHT.

Mr. Shelton wished to know under what circumstances bees would build the most drone comb.

Mr. Wright had noticed weak swarms were not inclined to build drone comb.

Mr. Alexander said queenless stocks built the most drone comb.

The President said queenless stocks built drone comb almost exclusively, and that stocks with old queens were inclined to build more drone comb than where they had a young queen.

Mr. Shelton said he had noticed his bees build more drone and crooked combs late in the season.

The President said, late in the season, when the sun was hot, the combs in buildings became warped by the heat, and recommended shade for hives.

Mr. Shelton asked how empty comb could be kept from the moth-worm.

Mr. Wright would put in a tight box and put in an upper room.

Mr. Alexander said he had but little experience in keeping empty combs.

The President said the best place to keep empty comb from the moth was in a box or room so tight as to exclude the moth-fly; that he never removed the surplus comb until winter, and returned them as soon as his bees were strong enough to protect them in spring.

Artificial swarming *vs.* natural swarming was then taken up, and, after some discussion, it was agreed that artificial swarming was the surest and safest way of increasing bees.

Mr. Hamilton gave a little of his experience in trying to capture absconding swarms, and said he was in favor of artificial swarming.

Mr. Shelton—I would like to hear from some one on buckwheat for bees.

Mr. Alexander said he had but little experience with buckwheat as a honey plant, but he was traveling once, and he got buckwheat cakes and honey, and he knew they were very fine.

President—on buckwheat—said if sown on rich ground, and the weather was favorable, would produce honey, but on poor ground it was of no account.

Mr. Wright said, when he was a boy, they raised buckwheat for bees, and they worked on it. Did not know what they gathered from it.

Mr. Shelton said he will differ with the President on buckwheat on poor land. He said he bought a poor piece of land and put it in buckwheat, and thought it paid well to raise buckwheat for family use.

The President said he hardly ever made as much as he sowed. He thought, perhaps, he sowed too early. He thought to make two or three sowings one might have better luck.

On motion the President appointed I. N. Greer, of Barren county, on committee appointed at the last meeting of this society, to collect honey-producing plants of doubtful name, and forward to a botanist for true name.

A long discussion on the best honey plants was engaged in by various members, and it was agreed that all bee raisers should furnish pasture for their bees, as well as other stock; that they ought to sow buckwheat, catnip, white clover, and plant around their farms the various honey-producing trees, such as sugar maple, poplar, and sumach.

On motion the Convention adjourned to meet at this place on the 3d Wednesday in October next, at 10 o'clock, A. M.

H. W. SANDERS, Sec.

For the American Bee Journal.

To Remove Glue from the Hands.

In answer to Mr. Mason's inquiry for something "That will remove glue from the hands," I will suggest that Rock Soap will fill the bill exactly. As he and the rest of your readers are very likely unacquainted with the article and may suppose it to be some artificial compound, it may be well for me to suggest that the article was discovered in the side of a mountain by Mr. A. F. Hubbard, about 7 miles west of Ventura, California. The strata is about 20 feet thick and inexhaustible. They have commenced quarrying it and packing out of the mountains on the backs of little donkeys. The crude material is then hauled to Ventura, crushed in a quartz mill, dried, ground fine like flour between French burs. bolted, dampened, and pressed into cakes of convenient size for toilet use.

This soap possesses some remarkable properties. So far as I can see, it washes just as well in hard water as in soft. I no longer take the trouble to replenish my pitcher from my cistern, the well being a little more convenient. Those who have tried it say that it does equally well in sea water or fresh. The discoverers send samples to all those who send 15 cents to pay return postage on the cakes. Common soap cleanses by means of its caustic properties and is injurious to the fiber, while, so far as we know or can judge, this rock soap cleanses by means of its powerful absorbing properties and is not injurious to the surface.

O. L. ABBOTT.

Santa Barbara, Cal., June 9, 2876.

For the American Bee Journal.

Ripe Honey.

Not being scientific and having only four years' experience, I do not desire to get into a controversy but only desire to throw some yeast into the subject, hoping thereby to induce some abler apiarists to ventilate it more thoroughly. It is certainly of the greatest importance to all of us to bring into market only the most natural and "Simon pure" article, which not only is honey but also tastes like honey.

Some hold that it is enough done, if uncapped honey, after being thrown out, is put into open barrels and allowed to evaporate until all free water has left. Others believe in slinging out the honey only after all honey cells have been capped over by the bees. Who are right?

It is by many concluded, I think, that the older bees gather the nectar from the flowers or the so-called honey dew from the leaves, and coming home empty the same hurriedly into some cell, while it is one of the offices of the younger bees to suck it up from these cells, partly digest it, and after the nectar by the process has lost much water and is also changed into real honey to deposit it in the comb where it is to be capped over after all free water has evaporated. The cells are generally not over ½ inch deep, and while the bees always keep up a lively circulation of the warm air in the hive it cannot be doubted that the honey in cells will soon be rid of all free water, when it is fit to be capped over. The bees knowing exactly what they do, begin to cap as soon as the honey does not evaporate any more.* I always find the honey in combs which have partly been capped, of general thickness.

I cannot see how thin honey put into open barrels can ever well evaporate. If 2 feet deep, it is 48 times deeper than a cell. If it takes 3 days in a cell to evaporate, it must take 144 days in a barrel of two feet deep. It is only the surface which evaporates. Of course the evaporated honey surface becoming heavier will sink, giving room for a new layer of thin honey to evaporate. There will certainly be an end to the process, but I would not dare to wait for it. Expose a barrel of clean water to evaporation and see how long it will take to be empty. How much longer may it take to evaporate the free water from a barrel of thin honey?

I have another objection to slinging combs which have no capping on them. Such combs may as well as not be the first receptacle of the honey as brought in by the older bees, which, as far as my experiments go, is very often quite distasteful, not being like honey at all. To wait before slinging the comb until all cells are capped over is, I think, unnecessary, increased labor and unavoidable injury to the cells by the knife being the only gain. I sling my combs if only 3 or 4 rows of cells are capped over.

Sigel, Ill. CHAS. SONNE.

*[Is it certain that honey sealed over cannot be further evaporated?—ED.]

For the American Bee Journal.

Pro and Con.

DEAR EDITOR: — Having never wearied your patience, pro. or con., with this or that theory, or whether bees can or can't hear, or "dysentery *versus* foul-brood," or the many topics so fluently discussed by able and worthy writers, whose communications grace the pages of the faithful friend of apiculture, THE AMERICAN BEE JOURNAL, my subject shall be principally—for or against.

On page 176, July issue, is a notice of Alfred Chapman's ideas of queen rearing in larvæ as food. He is correct, without the shadow of a doubt.

Can bees hear? Now, that is too transparent to take any one's time to write upon, especially Mr. Argus, who is talented and can word his communication so correctly.

I am an old man and on account of being crippled in my left hand by a burn in infancy, was and am unqualified for any labor that requires two hands, and in order to do duty or labor of some kind I was required to watch bees from a period of my earliest recollections, and I have discovered and satisfied myself at least, of very many important points and features necessary to the correct and profitable management and treatment of bees. Yet, I have failed in being able to find a deaf bee, and would just as soon say that all bees were deaf, dumb, blind, had no sense of taste or feeling and couldn't sting, as to assert that they could not hear.

"When Sorghum came my bees went," is a cry from across in Kentucky. Perhaps it's so, I will not dispute, but it is not my experience. I would suggest that bee-men

examine their hives immediately, and cut out all the cherry and peach-blossom honey that remain in the hives, and tell me in the spring how many colonies you have lost on account of dysentery. You will readily recognize said cherry honey by its cherry color and taste, the appearance of fine bubbles in the honey cells, its resistance to or bursting the sealing; and instead of your bees dying of dysentery they are hermetically sealed up in constipation (everyone is aware that cherry and peach pit meat is poisonous and of a costive nature). The nectar of flowers remaining in the fruit is the germ of the coming fruit seed and if the seed is poisonous the honey is of a similar nature. The above is the best preventive of the early spring bee disease that I know of. The next best (for those that have not already gorged themselves with the said honey) is to give them for food some warm water sweetened with N. O. molasses or something of a gentle purgative nature. When you see your bees take a flight and void freely and return to the hive, have some sweetened water, sweetened with any of the refined grades of sugar, ready for them in the hive, warmed to blood heat before placing in the hive that they may partake heartily of it, as honey in the hive becomes too rich for them, and the weather is usually too chilly for the bees to seek water in the winter or spring flights. Where bees void freely and return to the hive, in this way of treatment they are safe. But after voiding on a chilly day the warmth leaves the body almost the instant that they empty themselves, and often chill and are not able to return. BEE SMITH.

Tecumseh, Mich.

[Does not the same fatality attend bees where they have not access to peach and cherry blossom?—ED.]

For the American Bee Journal.

Introducing Queens.

There are various methods of introducing queens, all of which can be practised, no doubt, with a considerable degree of success. One way is this: after taking the queen from the colony to which you intend to introduce the Italian queen, drop her into honey and daub her all over with it, then put her into the hive among the bees and by the time they clean the honey off her they will accept her; but I never dared to risk introducing a valuable queen in that way, and cannot recommend it. Another method is to put the queen and two or three workers in a wire cage about one inch square and four inches long; cut a piece of honey as large as the inside of the cage, then cut the cells off from one side and put it in the cage next to the bees, with the cells up, then put in the wooden stopper and draw a piece of wire through the top end of the cage and separate the combs near the centre of the hive far enough to let the cage down between them, and when you get the cage where you want it, bend the wire over the top of one of the frames and let it remain there 48 hours, then daub some honey on her and release her to the colony. I used to practice this method with universal success, but last year it was entirely unreliable. I then caged them the same way and left them the same length of time and instead of releasing her I would unstop the cage and take out the piece of honey and having ready a piece of soft comb honey from their own hive, stop the cage with that, putting it in with the cells crosswise; then take a knife and scar the combs enough to set the honey to dripping in several places and close the hive. The workers will immediately turn their attention to taking care of the dripping honey and repairing the combs, and will gnaw the stopper out of the cage and the queen will pass out unnoticed and will soon be depositing eggs unmolested. When released in this way I do not look for her for a number of days, and have not lost a queen in this way.

It must be remembered that old black comb will not do to stop the cage with as the bees are liable to not gnaw it out. There is of course some risk in introducing in this way, but to introduce a valuable queen with perfect safety and without running any risk, I go to two or more hives and take a comb from each of ripe and hatching brood and shake it to get off all or nearly all the old workers, and place them together in an empty hive, and all being in a strange place and strange to each other and all or nearly all young workers they will not quarrel. Then place the queen on the combs, not caged, and she will go to laying unmolested, and the workers will pay the same respect to her as they would to their own queen. In introducing in this way the queen can be seen very often for the first hour or two, and if anything should go wrong it can be arrested before she is likely to be stung and all the old workers picked from the combs and allowed to return to their own home. A very few workers are sufficient to introduce a queen to, if they are hatching pretty fast from one or more combs. If the nights are cool it will be necessary to take them in the house at night, until they get strong enough to protect themselves against the cold. If there is danger of being robbed it will be necessary to put them in the house or cellar until some of them are old enough to guard the hive, then set them out and contract the entrance. Add combs of hatching brood from other hives and they will soon be a strong colony. With this mode of introducing we not only introduce with perfect safety, but we add one colony to our number instead of simply superseding another queen; thus we have all our queens laying which is of vast importance since bees and combs are capital with a bee-keeper.

Virgin queens can usually be introduced if taken as soon as hatched and put where you want them, uncaged. S. K. MARSH.

[The only way we know of to introduce a queen with *perfect* safety under all circumstances, is to have no bees whatever in the hive when she is introduced. Have frames of comb containing all sealed brood with bees just hatching out, and put inio a hive with not a single worker; put the queen in, shut up the hive bee-tight in every spot and place over a strong colony with wire cloth between so that no bees may pass from below, but the heat may. Then, in 4 or 5 days set the hive where you want it and open the entrance.—ED.]

For the American Bee Journal.

Distance of Combs from Centre to Centre.

In the June JOURNAL, S. K. Marsh "wonders how a bee-keeper could be so exact as to adjust the combs to the exact 1-16th of an inch every time they were taken out and replaced, or put into another hive without using a rule to measure every time." It seems there are still a great many "bee-men" who fail to get the full advantage of the movable comb system, and Bro. Marsh may be one of them. If he leaves the adjustment of his frames to guess work he certainly is. Not one "movable comb hive" in ten that I have ever seen is really movable in a practical sense. Most of them are movable enough when new; but after they are full of bees and the bees have been in them a year or two they are more properly pullable and prizable hives. To be a movable comb hive worthy of the name, the frames must be held both at top and bottom, the proper distance apart—for there *is* a proper distance notwithstanding that bees will "adjust themselves to the circumstances" of an illy arranged household. The frames must be so that they can be lifted out at the top of the hives without pressing or jarring or disturbing the bees in the least—so arranged that they cannot be glued fast. The combs must be so straight that one will fit anywhere in any hive in the apiary without crowding or leaving too much space between them. If bee-keepers would have their hives thus perfect they would save themselves and their bees much work and annoyance and find the care of an apiary much more pleasant than it generally is. It may be nothing new, but let me tell Bro. Marsh how to make such a hive. He may make the body of his hive any size or shape he chooses—can reconstruct the ones he has if he wishes. The top bar of his frames must be bevel edged on the under side the entire length including projections. A piece of board ⅞ inch square cut through from corner to corner makes two bars. The top end of the perpendicular stiles must be cut V shaped to receive the beveled bar, and said bar is nailed to the stiles with two long, slender finishing nails without much taper to them. The nails should be driven in at different angles to hold the better. The bottom bar is ⅜x⅝ in. and is nailed on to the lower end of the stiles with the same kind of nails, one at either end. The lower end of the stiles must be chamfered off taperingly to the bottom bar so the frame may slip gently down between wire staples that are to hold the frames the right distances apart near the bottom. If they are thus tapered off at the lower end and the staples give just the proper amount of play, ⅛ inch, there never will be any trouble in "jogging" in letting the frames down. The top bar, beveled edged on the under side, must rest on hoop iron in saw-tooth notches cut exactly 1½ inches apart. The frames will then hang, as it were, stationary, made so mostly by their own weight, just 1½ inches from centre to centre, and when that distance apart the bees will always begin their combs on that beveled edge. If the frames are further apart than that or nearer together they will not begin the combs there every time. Now bear in mind there are no clap traps nor inconvenient and cumbersome triggery about all this, simply an inch hoop iron with saw-tooth notches cut 1½ inches apart and a frame made bevel edged all the entire length on the under side; these staples say ⅝ of the way from the top down giving ⅛ inch play, with lower end of the frames' stiles trimmed off, so as to enter without difficulty. Every bee-man knows the necessity of having every frame and comb so that it will fit every way and everywhere in every hive, and in this way this great convenience can be obtained.

J. W. GREENE.

Chillicothe, Mo.

[We insist always that every frame shall be movable and go in any place in any hive, but we confess that we have not yet been able to have all combs built exactly alike. As they now are, we are obliged to vary somewhat the distance of top bars.—ED.]

For the American Bee Journal.

Some of My Experience.

Bees are doing splendidly here this spring, have several stocks that I estimate have put up 80 lbs. of white, box honey to date; have taken off some finished. My bees were wintered and springed in packing boxes on summer stand, and were strong early; many of them commencing in boxes on apple-tree bloom. Have had but 8 to attempt swarming out of 35, thus far. Have tried some of John Long's white foundation, in the brood chamber. I judged it was mostly paraffine, and so was unfit for box honey, and I find it was also useless for the brood; as queens refuse to brood in it, the bees draw out the cells quickly and put honey into it after a while; but I have tried 10 or 15 queens and found only one that would lay in it at all, and I could not get her to brood it more than half of what she would the natural comb. I estimate that the pound of foundation that I used has done at least $10 damage to me.

Have also tried the plaster cast foundation, by filling small frames about 5x6 in. full of the foundation. I put in three stocks a box of ten small frames each, filled with plaster cast foundation (Mr. Cheshire's plan) ten days ago, and there isn't a particle of honey in it yet; the bees have built and filled combs on each side of these boxes, since they were put on, starting on a piece of drone comb 2½ in. long and as wide as your finger, although these boxes of foundation occupied the position on the hive that the bees generally work in most freely. And now, as far as I have tried it, I consider this whole artificial foundation comb business an unmitigated humbug, and I have tried it all that I care to. I would like to have you put this conclusion in the JOURNAL, over my signature.

J. P. MOORE.

Binghampton, N. Y., June 28, 1876.

[If we could have 80 pounds of honey stored by June 28, on each of several colonies, we don't believe we should care much to fuss with foundation. Will Mr. Moore kindly tell us what means, if any, he uses to have so little swarming in such strong stocks?—ED.]

For the American Bee Journal.

Comb Foundation.

Last winter I received samples of white and yellow comb foundations from John Long, said to be pure wax. Upon testing them by various ways I found but a small part to be wax, and in consequence did not order any more to experiment with. Last spring I received a sample pound of yellow comb foundation of C. O. Perrine, which appears to be pure beeswax. Have used it all in the hives this season, and the bees accept it all right, both in brood chamber and in surplus boxes. In the latter, the comb when finished with new wax and capped, looked as nice as any other, but when cut into disclosed a yellow streak in the middle and a very tough septum. It was not trimmed down as thin as the natural comb. This may partly be owing to the thickness of the yellow foundation. A sample of Perrine's foundation was put into a surplus frame along side of a sample of Long's. The bees worked on Perrine's and built new comb until they were scant of room, and then took hold of Long's sample and finished the cells on it. So it seems that they will work on paraffine though they do not prefer it. When large pieces of the foundation are put into frames they are warped by the heat of the hive, and the comb thereby made more or less crooked or waving. There seems to be no remedy for this, and I found my fancy to have a complete comb built on foundation "as straight as a board," would have to remain ungratified.

[Try filling a frame within a quarter of an inch of the two sides and bottom.—Ed.]

I made a pair of plaster dies, 5x6 inches, in order to experiment with pure wax foundation; succeeded in pressing about twenty sheets before the dies broke. They were all used in surplus receptacles with the following results. Very thin sheets of light yellow wax, melted up from caps and white scraps from honey boards etc., when built upon and sealed over looked as white and nice as the natural comb; when cut into disclosed a shade of yellow in centre of comb, and a thickness of the septum, so little different from the natural comb that no one but an expert would notice the difference. The thicker the sheet of wax pressed into foundation, the thicker the septum remained after the comb was finished. If the wax is ordinarily dark, the appearance of the comb when cut is much like that of comb, that one brood of bees had been hatched in, and would no doubt prove unattractive to consumers. Small sheets can be rapidly pressed with a simple lever, and dies, say 8 or 10 inches square, can be cheaply furnished no doubt by the electrotypers.

Now, if the patentees would sell individual rights to make and use comb foundation, at a reasonable price, it would probably come into very general use; but I confess the present price of the article deters me from making any large investment in it.

The simplest test for adulteration of beeswax is to put a small piece on a hot stove. Pure wax foams over nearly the whole surface of the melted wax. If mixed with paraffine or other substance only a part of the spot will be covered with foam. By a little practice any one can thus readily determine very nearly the amount of adulteration.

Maysville, Ky. Wm. C. Pelham.

For the American Bee Journal.

Ripen your Honey.

While this question is being discussed in the Bee Journal I wish to say a word, and to commence I will refer the readers to friend Muth's article on page 187, June number, present Volume. His experience and mine is the same in extracting and ripening. Let us put good pure honey on the market. Let it stand in barrels and tubs with open ends for some days after extracting, and the thin watery stuff and all impurities will rise to the top. Persons that have not had experience of the kind will be surprised at the amount of impurities they can skim off. We stand ours in the cellar and skim it three or four times at intermission, and then barrel up tight. This thing of running into the barrel direct from the extractor we never did, and after straining it into open ended barrels, etc., and then letting it stand and skimming it, we were convinced it was not the plan to barrel it without going through some days of a process of ripening, etc.

I have managed to make a home market for all the surplus honey I have to spare, so far, by going off into our neighboring towns and villages, a short distance away from home, and have sold at satisfying rates, rather than to ship east to the large honey houses. If our bee-keepers would be crafty trading fellows, they could generally sell much honey near home. E. Liston.

For the American Bee Journal.

"In Medio Tutissimus Ibis."

I have selected the above motto as applicable, in my view, to most of the more important discussions of the day.

The honey extractor is lauded to the skies by some and by others condemned as a nuisance. Now the honey extractor, as I consider it, is one of the greatest inventions, probably next to the movable frame—the greatest of the age. And yet it is liable to abuse and should be used with discretion, always keeping in view the object at which you are aiming and never sacrificing the strength of a colony for present gain.

Spreading the frames of brood and introducing empty comb is another item upon which people widely differ. Some condemn it in toto, others carry it too far. While one or two empty worker combs, never extending the brood beyond the ability of the workers to cover and take care of, is a stimulus to the queen and a valuable aid to timely increase, going beyond that is attended with mischief, enfeebling the colony and discouraging the queen; and this with too free use of the extractor is doubtless the great cause of the frequent desertions of queens so often complained of. The Italian queen, especially the half breed, is a spirited thing and you take away her resources, or cripple her energies by overtaxing her efforts and she rebels, often leaving honey, brood and even workers, though sometimes she takes the latter with her and seeks new quarters. Under such circumstances a little timely aid by giving a frame of brood in all stages is a good remedy, and a valuable precaution to take with all swarms both natural and artificial, especially when the queen is probably unfertilized.

A. W.

For the American Bee Journal.

Winter Shelter for Bees.

ED. JOURNAL:—Although I have bought six different works of you on "the management of bees," and have read them all, thoroughly, and have been taking and reading the JOURNAL, yet I have never kept any bees. The bee business seems to be quite an uncertain business, judging from the reports made through your JOURNAL, but I think it is mostly made so from mismanagement of those engaged in it, especially in the wintering of the little "bugs."

Now, I have an inquiry to make of you and the readers of the JOURNAL, which if you think worth it, you will please insert. Will it not pay to make about as much of an outlay for sheltering and housing a swarm or colony of bees, as it would for sheltering and housing a cow? Is not the net profit on a colony of bees about as much as it is on a cow? If so, why not make as much of an outlay and thereby save the bees?

What consistency would there be in raising a calf to a cow and then keeping it in the winter in a condition that would cause it to die from the effects of cold?

Why would not a box quilt, 4 or 5 inches thick, placed over the hive, with proper arrangements for ventilation, and over the whole place a sheet-iron hive or case, well painted, and let the colony stand on the summer stand, be as good an outlay for wintering as could be desired? The sheet-iron case would keep all dry within, and could conveniently be taken off any time when it becomes necessary to examine the bees. O. J. VINCENT, M. D.

Noble Co., Ind., June 29, 1876.

[We have read over again for the third time the statement that so many works on bees have been read by a man who has never kept any bees. We are sure the Doctor's interest would be highly increased if he should have one or more colonies to manipulate, and he could then test for himself the plan he proposes. We are not sure about his plan, but are open to suggestions on the whole subject of wintering. We think the question is yet an open one with the majority of bee-keepers.—ED.]

For the American Bee Journal.

Extracted vs. Comb Honey.

Yes, friend Heddon, I hear the noise; but you forget that you acknowledged to me only last season that you would contract your extracted for 10 cents, to be taken at your door, pay for packages, etc. Be careful and remember you live near Kalamazoo, and there is an asylum there. The farmer pays $2.50 per day for harvest help and sells his wheat for one dollar per bushel. There is a false price put on everything in the mercantile line in these days; and it costs us almost one cent per pound to produce extracted honey, and I can produce ten pounds of extracted to your one of comb honey. Dare you try me? If so, make your offer and I am your man. Yours in swarming time, HIRAM ROOP.

Carson City, Mich., July 5, 1876.

For the American Bee Journal.

Comb-Building.

EDITOR BEE JORRNAL:—I cannot forbear giving you for print what it pleased me so much to see. I have long felt much curiosity to see just how the bees build comb, and for the purpose of watching them, have a small glass hive. Last Sabbath, taking a newspaper and my footstool, (not wicked, was it?) I went to sit with the bees awhile. I had left the comb rather near one of the glass sides and they had commenced building comb on the glass, thus working with the underside of the body toward me. One bee first attracted my attention by some queer contortions of the body, and a tumble backward among a cluster of some half dozen just below where the new comb was being started; when he again found his feet he had a wax scale between his mandibles. Now, I thought, perhaps here is an opportunity of seeing what I have thought so much about. The scale was held upright between the mandibles and lapped against the inside of the cell on which the bee was working. The scale was not left whole, but after being fastened at the lower side, a part was broken from the top and carried to the other side of the cell. When this had been disposed of, he commenced rubbing the side of his body with the hind leg, at the same time curving the body toward the side rubbed as if to loosen the scale. One could not help laughing to see the quick, funny way in which this little fellow carried the scale from body to mouth. I suppose the hairs or bristles near the pollen basket, or perhaps the little claw-like appendages are stiff enough to catch into the scale thus holding it until placed in the mandibles. I have often questioned how the scale was taken from the body, supposing it was done by other bees, and to see this gave me much pleasure.

All bee-keepers must have noticed the way in which bees hang clustered, almost motionless, when building comb. Now, are the scales passed upward from one to the other to those building at the top, or do the bees change place, each taking care of the scales produced on his own body? M.

Medina, Ohio.

[Here is a very interesting question and we hope "M." will continue her investigations in the same direction. We had always supposed (though this was from reading and not from observation) that bees were neighborly in this wax business, the bee secreting the wax allowing others to help themselves, but "M's" observations point to a different conclusion. Another question in this connection: Why is it that so many scales are wasted and found lying on the bottom board, or thrown out of the entrance when bees are busy building comb? If the bees took these scales from one another why should they not pick them up from the bottom board? But if each one uses the scales directly from its own body then we should not so much expect them to pick up those that are dropped. We shall be glad to hear further from "M."—ED.]

For the American Bee Journal.

Thoughts on Reading the July No.

FRIEND NEWMAN:—The July number is received and contents devoured. A few questions are asked and other matters require an answer.

On page 179, "Can bees hear?" two questions will answer it satisfactorily I believe. When bees issue forth as a swarm, they are induced to do so by the piping (so called) of the queen which the bees hear (not feel) and go forth; and after they are out do not they follow the queen by a peculiar noise produced by her flight? How soon they return if she can't be found; they cannot follow by scent, feeling or sight and must of course by sound.

[We think bees hear, but we don't here see the proof. Do queens always pipe before the issue of first swarms? Is it proven that bees cannot *feel* the piping? It is a common thing for our bees if they swarm out without the queen to settle and remain clustered for some time as quietly as if the queen was with them, but in a couple of hours or sooner they learn the absence of the queen and return to the hive.—ED.]

On page 181, "Bee-Keeping No. 2" goes for the N. E. Bee-Keepers' Society with what he deems a cut, but he has hashed his own judgment for the worst. The report of their meeting shows that it was a good one, and I would be glad to read a few more such reports. But I must notice No. 2. "Now, this talk about controlling swarms is all a humbug." Their answer was plain and too pointed, but they all knew that the question had so often been answered that it was foolishness to a great majority of that Society to again discuss it, and then gave that reply to pass the question; had it been interesting, more would have been said.

No. 2 seems to think that the way to control swarming is to increase. Now, the swarming fever is three times as strong here as in the North, and if left alone they will swarm to death. We have not allowed a swarm since May 1st, and have had over 50 to try their best at it, but we have controlled and with entire success.

On the second question he wants more light than just "Yes." Well, early in the spring, often times there is so much honey gathered that the queen is cramped for room, cannot use the extractor on account of the atmosphere and brood, and in consequence a lack of brood. No. 2 condemns the answer to question 13, for he failed once, but who could call it wisdom to undertake to introduce a young queen when the bees had *a queen cell concealed.* They answered it very well, yet I prefer to open the hive as soon as the first swarm issues, and cut out all the queen cells except one, the finest looking one, then the bees cannot possibly have a chance to swarm for twenty days after she hatches; as they will have nothing to raise it from; if they should have eggs they will not build another while they have one good cell.

On page 185, there is more "House Apiary again." Well, we have a house here the size of Louisiana, that I guarantee to winter safely in. It has plenty of room to fly in, when they wish; can gather enough in November for November's consumption, and get honey again in February and March and ready to swarm in April.

On page 188, G. H. Mobley has advanced some ideas of 1846 instead of centennial '76. "Bees will clean out extracted combs and put it all in one comb—the honey. I have been often surprised on opening the hive the next day after extracting to find one comb almost full of honey and the others—extracted ones—dry and plenty of eggs." Let us know when you cut out a lot and we will give a good price for clean combs. We had several hundred built this summer, and I am sure they cost us 16 lbs. of honey for every pound of comb built, and then there is the time consumed in building them. Now please own up, or give us the secret.

[Does not SIX misunderstand Mr. Mobley?—ED.]

On page 193, Mr. J. B. Rapp gives us the proof for a queen meeting two drones. Does not the queen return with the male organ of the drone adhering to her? Has she capacity for two drones? Let us know, as I have seen them return more than once and they were satisfied to return after meeting one.

To clean combs from moths, mould, bee-bread, etc. Soak them in soft water for one day and put them in the extractor and throw out the water and filth, and set them in the shade to dry.

To disinfect combs use carbolic acid two drachms to the gallon of soft water, remain in for one day, then wash in clean water used as for mouldy comb.

Please allow us to state to the readers of THE AMERICAN BEE JOURNAL the quality of the imported queens received from Messrs. Dadant & Son. I sent for one in the winter but could not get it on account of the cold. She came May 19, I think. Mr. Lindsly was 13 days before he could induce the bees to take her. Then she received an accident, a frame hit her on the back between the second and third bands and the damage is quite visible yet. She was just the color we ordered—orange—and very stately in her motions. She is the best layer I ever saw, will fill a sheet of comb 9x17 every 24 hours. It does not stop her from laying to hold the comb out in the sun. Several have seen her laying or depositing her eggs; she stops only for want of room. Her queens are uniform in color and size.

Pointe Coupee, La., July 8, 1876. SIX.

For the American Bee Journal.

Dadant on the Purity of Queens.

See page 169, first column, June No., present Vol., in answer to J. W. McNeil. Now, friend D., I take you as one of our leading men, and am generally much interested in reading your contributions to THE BEE JOURNAL. On the question and answer here cited I will ask for more explanation, and I want other breeders of Italian bees to let us know their experience in the matter referred to above. I have had a number of queens that bred three distinct yellow-banded workers and a small portion of them would have all of the body jet black in rear of the yellow, and then the balance of the workers would be beautiful and uniform in color; but I have been dubious that they were a little touched with black blood and

would not breed from them. I have others that are uniform in color and no black tipped ones amongst them. Why is it that some of these do not get old and lose the hair off that part of the body also? I can't see why the workers of some queens are deprived of the hair and others are not.

Now, I am doubtful about their purity, and want more light from friend D. and others that have been breeding Italian bees for years. Breeders please be frank.

Virgil City, Mo., June 19. E. LISTON.

For the American Bee Journal.

Maury County Bee-Keeper's Society.

The above society had their regular meeting on Saturday, July 1.

Present: W. S. Rainey, Pres., Wm. J. Andrews, Sec., and Treas., S. D. McLean, Travis McLean, J. C. Moore. M. G. Grigsby, R. H. Caskey, J. C. McGaw, J. M. Byers, and others.

The proceedings of the last meeting were read and on motion adopted.

Mr. J. J. JONES, who was appointed at the last meeting to read an essay on honey, not being present, the appointment was continued until next regular meeting.

The President stated that he was in receipt of a letter from Messrs. Chas. Dadant & Son, accompanied with documentary evidence that they were regular importers.

MR. MCLEAN did not want to see the society entagled any further with what he regarded as a personal controversy between Mr. Andrews and the Dadants, and he thought these gentlemen should fight it out between themselves.

The Secretary said that he himself did not wish to occupy the time of the society with it, but in justice to himself, would state that he had never called in question the fact of the Dadants being regular importers of Italian bees, but had simply complained of the queen sent him and others. After some further remarks on the subject, on the part of the members present, the matter was dropped, as not belonging to the business of the society.

J. M. BYERS would like to know if it was advisable to extract honey before it was capped.

MR. GRIGSBY did not extract until it was capped or the bees had commenced to cap it over.

S. D. MCLEAN was like Mr. Grigsby, did not extract until honey was ripe, that is until the bees commence capping it over, it was then as ripe as it would ever be. He had extracted as often as every five days.

MR. MCGAW—I would like to ask Mr. McLean what causes honey to sour.

MR. MCGAW and MR. CASKEY had taken sour honey from boxes and hives.

The members then engaged in an informal discussion about honey for some length of time.

MR. CASKEY, had a number of introduced queen cells destroyed. With queen caged in hives they would nourish cells, but when he killed the queen, the bees would destroy the cells.

MR. GRIGSBY had introduced about sixty and had only ten cut out of that number. Thought it best to have queens fertilized and introduce them.

MR. MCLEAN—Cells built in free colonies are rarely cut out when introduced, but when reared in a nucleus, especially if there is a scarcity of pollen they will cut them out. Cells when just capped over are very tender, and a critical time to handle them, as the least motion will kill the embryo queen they contain.

MR. GRIGSBY—Do I understand Mr. McLean to say that the handling of the combs with queen cells in them will destroy them?

MR. MCLEAN—No sir, unless the bees are shaken from them, a thing I never do.

MR. GRIGSBY—How long after capping the cell is it before they commence spinning their cocoon? This question remained unanswered. The members engaged in another informal discussion on several topics, lasting an hour or more.

MR. GRIGSBY—I move that we establish an experimental department, for the purpose of conducting experiments, and that the President appoint a committee of three to conduct such experiments as may be agreed upon at each meeting.

The motion being seconded by the Secretary was adopted.

The President appointed as said committee M. G. Grigsby, S. D. McLean and Wm. J. Andrews.

MR. GRIGSBY—I suggest that the committee just appointed make the experiment and ascertain at what age the larvæ passes the stage of being reared into a queen; which suggestion was accepted.

MR. MCLEAN moved that Mr. Grigsby be appointed to read an essay at the next meeting on the management of an apiary to procure the largest amount of honey. Adopted.

The society then adjourned to meet the 1st Saturday in October.

WM. J. ANDREWS,
Sec'y and Treas.

Los Angeles B. K. Meeting.

The Los Angeles (Cal.) *Herald* says, that on Saturday, June 17th, the bee-keepers of Los Angeles Co. held a council, and that there was a good swarm and they settled on principle. The time was principally occupied in the discussion of marketing honey. A degree of earnestness characterized the proceedings showing that each member was wide awake to his interests.

Prof. Harbison, of San Diego, was introduced to the meeting, who addressed it upon the subject then under discussion of marketing honey. We are sorry to state that we cannot report his remarks in full. There is no man on the Pacific coast who is better posted and more competent to advise on this subject than the professor. His experience in this department of bee-keeping has been extensive. He well understands the operations of dealers and commission men who control the market. His remarks abounded with good sound sense and facts that were well received. He has had more practical experience in producing and marketing honey than any other man in the United States, consequently his opinion is worthy of much consideration. He urged united co-operation with all the honey producing counties of Southern California. The suggestion was acted upon by the meeting and a committee of four was appointed and instructed to confer with the bee-keepers of San Diego, Ventura, San Bernardino and other counties that may feel disposed to unite in the movement.

The following papers by A. J. Davidson, were read:

A BEAUTIFUL THEORY.

One fine summer morning Mr. Nectar, Mr. Blowhard and Mr. Goodwill met near a beautiful live oak tree, which furnished a cool resting place, when the following conversation ensued:

Mr. B.—Mr. Nectar, you are just the man that Mr. Goodwill and I wished to see most. We have been planning a bee business on a larger scale than most of you Californians have thought of yet. It is a very profitable business, I understand, as it does not require much capital and the labor is easy. We propose to buy a long canon in the mountains, say ten miles long, in which we could locate six or eight apiaries of 500 each, and have each swarm supplied with a new frame that I am about to patent, so adjusted with a groove that the comb can be uncapped in the hive simply by the use of a lever. This honey will then drop into troughs, which will lead to a large tank, and from this tank at each bee yard an iron pipe would lead out to a *main* pipe that would run from thence to some seaport town, Santa Monica for instance, where it could be run directly on board a vessel.

Nectar—I would like to sell you what bees I have to spare—(aside to Mr. G., for cash)—as when such stupendous operations as this one are on foot it would be well for small enterprises to veil their heads.

Mr. G.—What do you think of the relative merits of the Italian and black bees?

Nectar—It is conceded by almost every intelligent bee-keeper that the Italian is very much superior to the black bee.

Mr. B.—What do you think of the plan that I have indicated? Would you not be glad to take stock in this undertaking?

Nectar—If you would get it started and it proved a success in every way, of course.

Mr. G.—What would one of those apiaries cost without the innovations of which Mr. B. speaks?

Nectar—First, the grounds and buildings for such an apiary could not well be less than $4,000. The 500 swarms on the ground in condition for making honey, at $10 each would be $5,000. Team, wagon, and conveniences for a family, $1,000.

Mr. G.—This would be an investment of $10,000; and would this business pay 1½ per cent. per month on this investment?

Nectar—This is an open question. A man of industrious, economical and business habits of course can succeed in almost any industry.

Mr. B.—I have heard that honey could be raised for five cents per pound, and that it did not cost much to run the business, and I had concluded to run it a few years and retire, but your suggestions have knocked into pi my ideal plans of buying a stone front in the city.

ITALIAN AND GERMAN BEES.

The question is asked often "In what do the Italians excel?" 'In and in breeding' has been steadily practiced with the black bee generally from ignorance and frequently by those who knew the advantages of crossing the stock, for lack of time or having some other industry to occupy part of the time during the breeding season; while with the Italians, queens have been imported generally by good practical breeders and in many cases it is thought stock has been improved by home culture. Then it is logical to infer that if both were alike good when first imported that we would have to give our verdict in favor of the Italians. But when we take into account that they have more strength, can fly farther, and that they have the ability to collect honey from certain trumpet-shaped flowers that the black bee cannot, that they work earlier and later and are more prolific, these advantages no doubt account for the superior condition of Italian swarms in very trying years when bee forage is scarce. The summer of 1875 for example. There are many things admired and esteemed solely for their beauty. And for those of an æsthetic taste our rich, golden colored favorites would certainly be preferred. And finally I would say it is easier for bee-*keepers* to *keep* bees that will *keep* themselves.

For the American Bee Journal

My Bees.

I went out June 12 and spent a few days with my bees. I found they had gained in strength, but the strong ones had gained more in proportion than the weaker ones. The very weak swarm, which was dwindling at last report, had succumbed; so, out of 40 put in the cellar last winter, I lost 8 in wintering. I had bought two more colonies from Mrs. Adam Grimm, which made 34 to commence the season with. I extracted 110 lbs. of honey and started 9 new swarms by merely putting in an empty hive a couple of frames of brood with the bees attached, and one or two frames of honey, shaking in some more bees if necessary. Of course all the old bees will fly back to their old home but the young ones will remain and raise a queen. Having the assistance of Dr. H., an intelligent and interested observer, made the work pleasanter. June 28, I visited my bees again but could only spend one day with them and so left the most of them untouched. I took 160 lbs. of extracted honey and started 10 more new swarms. To each of the new swarms, which I had started on my previous visit, I gave a couple of frames of sealed brood.

I would have started more new swarms but had no more hives ready. It is strange how difficult it is to get hives made exactly as you want them, unless you make them yourself. Last summer I had some made and by a variation of a quarter of an inch in one of the measurements, I could not put a single frame in the hive. Men seem to think that a variation of an eighth or a quarter of an inch does not matter because it's only for a bee hive. I first thought of having frames made shorter so as to fit these 24 hives, and did try two or three of them, but I found myself coming to these hives without thinking, with frames of brood covered with bees from other hives and obliged to whittle off the ends of the top bar of the frame, before getting them into the hive, so I had the whole 24 hives changed. I should have bought, this summer, material ready to nail together, from Oatman & Sons, but feared that in some way there might be some difficulty, as the size of my hives was a little different from the ones they were regularly making.

The having more than one kind of hive in an apiary is a great inconvenience, much

greater than any one will suppose who has not tried it. Whoever starts with more than one kind will sooner or later be sorry for it, and I cannot urge too strongly upon those who have as yet only five or ten colonies to discard all but one kind of hive.

July 10, I went out and found the bees had been doing some swarming in their own way, as I expected they would. Although I had stopped making swarms for want of hives, my wife was not to be balked in hiving the natural swarms that came, so she fixed up all sorts of hives and yet in such a way as to have frames in them, so that with very little trouble I was able to transfer them, frames and all, into hives which I made. Eight or nine natural swarms were thus saved, and I am afraid I should not have done so well with the material at hand. Three natural swarms came out while I was there. In the case of one of them, I waited for them to return to the hive after settling, as I had seen the queen but a few weeks before and her wings were clipped. To my chagrin they arose in a body and sailed off majestically for parts unknown, leaving me an unwilling spectator of their flight. I consoled myself with the thought that before many weeks I would be with them every day and then they would not play me many such tricks. They had undoubtedly raised a young queen, having probably swarmed some ten days or two weeks previous, and their old queen had been lost or killed.

I overhauled all of the colonies taking from the strong ones frames of sealed brood to give to the young swarms I had started, and also to the natural swarms I gave one or two frames of brood each. I took about 625 lbs. of honey, nearly all extracted.

I have been best satisfied with rotton wood for smoking bees. That from maple, beech or other hard wood, having the dry rot, if just right, will hold fire and slowly burn until all is consumed. Sometimes, however, I have had no rotten wood on hand and almost anything can be made to do in a pinch, after a fashion. A pipe or cigar is convenient for smokers but I don't think I should want any tobacco about my bees, even if I were a smoker. A roll of rags makes a pretty good smoke. Wood which is not properly rotted, and even that which is perfectly sound may be made to do. Take an ash pan having the bottom covered with ashes and live coals and put therein two or three pieces of wood with the ends well burnt having the burnt ends on the coals and you will have a good smoke, the only trouble being the danger from sparks flying in the hive. For a sudden use, where you do not care to keep the fire burning, even paper will do very well. Roll the paper losely together, and after setting on fire, put out the blaze, and for temporary purposes it does very well.

Lately, being out of rotton wood, I have been well pleased with corn cobs. Keep three or four cobs burning together in an ash pan with hot coals, and if the cobs have been previously well seasoned or baked in an oven, they will keep up a steady fire without blazing. Of course different materials can be used in a smoker of any kind.

A word as to the manner of blowing. A continuous stream is not so good as shorter puffs. A continuous stream makes more perfect combustion, more fire but less smoke.

If blowing with the mouth, do not empty the lungs, but take in full breaths, only blowing out at each puff the extra quantity in the lungs. This will prevent dizziness.

B. LUNDERER.

For the American Bee Journal.

Albino Bees.

Being requested by many to give a description of the Albino bees, I will do so, hoping by this means to remove some of the prejudice formed against them.

When first I discovered them I was surprised and did not know to what to attribute it. I applied to different persons for information, and was advised to continue breeding them until I obtained the pure stock. I did so, and in my experience have found them to be as I shall now attempt to describe them.

As to their markings, the difference between them and the pure Italians is very striking. The head in color approaches near to a purple. Beginning at the waist, they have first three yellow bands, then three white bands, all the bands being very distinct. The white is not muddy and dirty but pure. The wings are finer and of a lighter color than those of the Italian. The only marking of the drone is the hair around the waist being white, giving to it a clean and pretty appearance.

As to breeding, the queens are very prolific. Pure Albino queens produce pure Albino bees. If an Albino queen mates with an Italian drone, one half of the workers will be pure Albino and the other half will be pure Italian. I have never seen any bearing the marks of Italian and Albino mixed. The markings will not be mixed as in a cross between the Italian and black.

I have found them to be better honey-gatherers and more gentle than any other race of bees I ever possessed.

Smithsburg, Md. D. A. PIKE.

For the American Bee Journal.

Notes from Southern Indiana.

Our honey season just closing has been unusually good. Generally, we have to depend on the poplar for our main supply of surplus honey, but this year we have had in addition to the poplar an unprecedented amount of white clover. Its white bloom seemed to be everywhere—along the wood side, in the old pastures, in the meadows, in the lawns—wherever it could crowd up its head. The very breezes were laden with its fragrance. The bees were literally "in clover," and right well they seemed to enjoy it.

I have nearly all my bees in two-story Langstroth hives. Heretofore I have been able to keep them from swarming in those hives; perhaps I could have done so this season if I had kept the honey closely thrown out. But this I could not do, and the bees got the start of me. Before I suspected it, I had several exceedingly large swarms—some of them would have well filled a half bushel measure. Although these were the first swarms I had had for six or seven years, I had no trouble in finding them comfortable homes.

The honey is of an excellent quality—thick and of superior flavor. I am not trying to sell any of it; I find a very good demand for it at my own table. What I can't

dispose of there, I can give away to my friends. I find this a superb way to make and keep friends. I don't know any more appropriate present to make, or one more pleasingly received, than a few pounds, or a gallon or two even, of nice extracted honey. Try it my bee friends, I assure you it will do you good, as well as the friend to whom you give, and you will be surprised to find how kindly it will make your friend feel and act towards you. Honey is a great pacificator with the human as well as with the bee family. M. C. HESTER.

For the American Bee Journal.

City Bee-Keeping.

We had a very good honey season, both as regards quantity and quality. Having my bees on the roof of a house, and in the city, puts me to disadvantage when compared with my brethren in the country. My bees have to fly too far to pasturage; and yet up to last Saturday, I had 3,020 lbs. of choice, extracted clover honey from my 22 stands of bees. Some of my neighbors beat this very much, but I have convinced myself that nearness of pasture was the cause of it. Their stands were not stronger than mine, but their honey was coming in faster. There is enough honey with my bees yet, ready to be taken off, to make it average 150 lbs. to the hive, or more. And this is a great deal more than our average used to be, 10 or 12 years ago. The average of 15 to 20 lb. to the hive was considered a great harvest at that time. Should we grumble now if we can't sell all our honey in a hurry? The honey market is dull at present, as usual at this time of the year. A month or two later it will be in better demand, however. CHAS. F. MUTH.

Cincinnati, O., July 15, 1876.

For the American Bee Journal.

Foul Brood.

I noted in the last number of the JOURNAL mention of cure of foul brood by the use of salicylic acid. The method is substantially the same as that which I discovered and published, with the use of sulphite of soda. And I have no doubt but that the acid will cure equally, if not more certainly than the sulphite. Both are powerfully disinfectant and destructive to parasitic growths and germs.

If I could have found any foul brood in this region I would have experimented with this remedy, and also another new one (new ones are being constantly discovered) called sulpho-carbolate of soda. Salicylic acid is perfectly harmless, and is obtained from various sources, one of which is from salicine, the active principle of willow. Meadow sweet and wintergreen also contain it, but the principal source of supply is from phoenol, one of the products of coal tar. When largely diluted it is not unpleasant to the taste. This with sulpho-carbolate of soda we use freely and successfully in diptheria, as an internal disinfectant. If any one is experimenting with foul brood I wish that sulpho-carbolate of soda might have a fair trial.

I have no doubt that foul brood can be thoroughly cured in any hive by disinfectants. But there is no *certainty* of a cure unless every cell of honey which was sealed while the hive was diseased, and every cell which contains diseased larvæ, and every empty cell even, is thoroughly disinfected. And it makes but little difference what the disinfectant is, provided it is harmless to everything but the disease and is a thorough disinfectant. But does it pay? If valuable life was at stake, either human or animal, no amount of pains would be too much to save it, but to my mind the bother and uncertainty of curing a hive that could be so easily replaced amounts to more than value received, except the pleasure of the consciousness of having mastered the enemy, *ie.* cured it. EDWD. P. ABBE.

New Bedford, Mass.

For the American Bee Journal.

Queen Trap.

I wintered 50 stocks of bees out doors; the season here is late, but bees are doing well now. I used a queen trap for the last 5 or 6 seasons, with very good success, catching the queen of first swarms and the swarm returns to the hive after discovering they have no queen. By taking the trap containing the queen from the old hive which is then removed, and an empty hive with the trap and queen put in its place, the swarm as it returns passes through the trap taking the old queen with them into the empty hive. Sometimes they will cluster and stay 15 or 20 minutes, and at other times hardly give one time to change the hives before they return. Of course, movable frames are necessary in managing bees this way, as in three days after the first swarm has left, the old hive must be examined and all queen cells but one cut out, and the hive left without a trap on it, or the young queens could not get out to mate with the drones. This trap also retains all the drones that pass into it, and they can be destroyed, let fly, or returned to the hive, as you wish. GEORGE GARLICK.

Warsaw, Ontario, June 17, 1876.

From the Maine Farmer.

Surplus Honey.

A very good way to afford the bees room to store honey, is to cover the hive with section boxes. These I have made 5 inches high, the ends of the sections 1¾ in. wide, the tops and bottoms 1¼ in. wide. Thus it will be seen the ends are close fitting, while the top and bottom will be open so that the bees can pass through. By attaching comb to the top bars the bees will generally build within the bars, so that when filled the section can be separated, each section containing a single comb. The hive can be entirely covered with these sections, and when partly filled raise the whole up and place another set beneath, and the bees will readily pass down through; and if the honey season holds out, fill both sets, and in good seasons perhaps more. If these section frames are placed across the hive it would make the sheets of comb rather unwieldy to handle or to transport to a distance; so I think it better to place a rest across the centre on top of the frames, and place two shorter sets of sections lengthwise of the hive. There is another advantage in this way, and that is, as the combs run the same way with those in the frames in the body of the hive, no harm will arrive

if the hive is not level from front to rear, as would be the case in having the sections placed the other way. To keep these sections together while handling, a case made of thin stuff should be made, with a thin strip nailed around the bottom to prevent the sections slipping through. By placing them in this case, they can be put on or taken off without trouble.

If boxes are used, I find it better to make them large enough to have them cover the hive if placed cross-wise. The boxes can be made of a size to suit one's fancy, large or small, though I prefer larger ones, having the set just cover the hive, placing rests upon the bars for the ends of the boxes to rest upon, raising them as high as the sides of the hive project above the frames; thus giving the bees a full passage between the boxes and the top of the frames. I think it well to bore two holes in large boxes 1½ in. in diameter for ingress to the boxes. In one side cut out a circular piece 3 inches in diameter, covered with glass upon the inside by which to display the contents of the box. When the boxes are removed after being filled and the bees have all left them, cover the holes with cloth pasted tightly over them to exclude the moths. This is not always sure to exclude them, however, and consequently they will need looking after occasionally. M. F.

From the English Manual of Bee-Keeping.

Pasturage for Bees.

With the exception of an occasional gathering from honey-dew, bees gather the whole of their honey from flowers, and consequently where there are no flowers they cannot thrive. But the term flowers must be taken in a broader sense than meaning such as we cultivate for garden ornaments or home decoration. The inconspicuous blossoms of many trees, the wee modest wild flower, scarcely noticed by passers by, furnish abundant pasturage for bees. Many persons who have lived in the country all their lives, are scarcely aware that our noblest forest trees have flowers at all, but from the brave old oak and the wide spreading beech, bees gather many a pound of honey. An avenue of limes or sycamores, a field of beans or white clover, form a very El Eldorado for the busy bees, their pleasant hum on the snowy hawthorn or the sweet-smelling sallow, (palm, as it is commonly called) is very noticeable when nature is awakening from the gloomy sleep of winter, and our thoughts and feelings are glad with the prospect of returning summer. Where large heaths abound, the bees have a second harvest, and it is a common practice in such localities for bee-keepers to send their hives to the moors for about two months, the trouble and cost being amply repaid by the immense weight of honey brought home, which the common heather yields freely during August and September.

In Scotland and on the Continent cart-loads of hives may be seen traveling to and from the heather. Often they are looked after on the spot by some resident cottager who receives a gratuity of 1s. per hive from the proprietors of the stocks. In the south of England this practice is not pursued, although I do not see why it should not be in many places, there being miles of heather equally available as in Scotland. On the Nile there are bee-barges which travel only at night, stopping in the day-time at any place that affords abundant pasturage for bees, and we read in *Pliny* that this was likewise the practice in Italy in his time. "As soon," says he, "as the spring food for bees has failed in the valleys near our towns, the hives of bees are put into boats and carried up against the stream of the river in the night in search of better pasturage. The bees go out in the morning in quest of provisions, and return regularly to their hives in the boats with the stores they have collected. This method is continued till the sinking of the boats to a certain depth in the water shows that the hives are sufficiently full, and they are then carried back to their former homes, where the honey is taken out of them." And this is still the practice of the Italians who live near the banks of the Po, the river which Pliny instanced particularly in the above-quoted passage. It was the advice of Celsus that after the vernal pastures were consumed, the bees should be transported to places abounding with autumnal flowers, as was done by conveying the bees from Achosia to Attica, from Eubœa and the Cyclad Islands to Scyrus, and also in Sicily, where they were brought to Hybla from other parts of the island. What portion of our fertile land does not afford sustenance for bees? Mr. Alfred Neighbour, in his work, "The Apiary," devotes a chapter to Bee-keeping in London. Could we ever imagine a more unpromising field for honey-gathering?—London! Foggy, smoky London! But think a moment. London has parks, squares, gardens, and each of these has trees, flowers and shrubs. What matter if the flowers be dirty—their nectaries secrete the coveted sweet, and the natural filter of the bees will clarify it better than any artificial one could do. Only last year a lady living in Kensington told me she kept bees there. They throve well and had furnished her with a super of fourteen pounds weight. It has been asserted that bees will fly five or six miles for honey, if a supply nearer home be not attainable. They may, but such an extreme labor would not allow the stock to thrive. Too much time and muscular strength would be consumed in making the journey. The great danger to bees is their liability to be tempted into shops, such as grocers, confectioners, etc., where they get bewildered, fly to the window, and in vain attempt to penetrate the glass, they die. Breweries are also fatal places, the sweet work attracting numbers which perish by drowning.

Most bee-keepers have a garden, and in it can be grown many flowers pleasing to the eye, grateful to the nose and useful to the bees.

Mignonette, borage, honeysuckle, hyacinth, crocus, laurustinus, lavender, lily, primrose and many other flowers are visited by bees, and may well be cultivated with advantage. The arable fields supply buckwheat, beans, mustard, clover and lucerne, which all give an abundant supply of honey; and if we follow America's example, we should sow, when possible, special bee flowers.

Borage has the reputation of being the best of all bee flowers. It blossoms continually from June till November, and is frequented by bees even in moist weather.

The honey from it is of superior quality, and an acre would support a large number of stocks.

Dwellers in the country cannot fail to have observed occasionally, that the leaves of the trees and shrubs have a gummy appearance and are sticky to the touch. If a leaf so covered be put to the tongue it will taste sweet. This is honey-dew, and is a secretion of some spieces of aphides, ejected from their abdomen in little squirting streams.

This substance the bees readily gather, and when it is abundant make large additions to their stores. It is generally most plentiful in June or July, and is chiefly found on forest and fruit trees, although often on low-growing bushes. At the season of its greatest abundance, the pleasant hum of the bees engaged on it is very audible. JOHN HUNTER.

From N. Y. Grocery and Provision Review.

National Bee and Fish Culture.

Bee culture—hitherto one of our most neglected yet most profitable industries—is gradually attracting increased attention and slowly assuming its proper importance among our sources of national wealth, while our exports of its product—honey—are already reaching considerable proportions since the production has begun to exceed the demand for home consumption. As we consider the neglect of our people to develop this industry, and the unlimited capacity of the country to produce this wholesome and nutritious article of food, and the annual enormous waste of the product of one vast department of Nature—the floral kingdom—we are tempted to moralize upon the proverbial waste and extravagance of the American people. So many have been our sources of vast and almost inexhaustible wealth, already employed and developed, that we had neglected to look about for wholly unemployed sources, and in the eager pursuit of old, we saw no new ones. This state of primeval extravagance and waste is slowly giving way, however. before harder times, denser population, higher values, and the causes which always operate as a community grows older, to utilize more and more its resources. This tendency has been seen for some years past, in the experiments of our State Governments in the direction of fish culture, until many of them have now a fish commissioner, whose duties are chiefly to stock their rivers which have been deprived of native fish, and to restore this great and almost lost natural source of cheap and free supplies of animal food.

Why should not our governments—national and state—stock our fields with the "busy little bees," as well as our streams with fish?

The untold and unknown wealth of flowers is now largely wasted. Like rivers they are performing but half and less than half their natural functions. It would, perhaps, cause a smile of derision to suggest the paying of the national debt by stocking the country with bees. Yet the opinions of authorities, and their estimates, state that the unutilized honey of the flowers is wasted annually in sufficient quantities, for want of bees to gather it, to pay the interest, if not the principal of the national debt. Mr. Harbison, the great apiarian of California, estimates that the evaporation of honey from the flowers of that State causes an anuual loss greater than its gold product. Why then should not this industry receive government recognition as well as fish culture? Here is one vast domain of nature, created not only for the eye, but for the taste and the stomach, left literally to "waste its sweetness annually on the desert air," while millions of our people are but half fed, and all, simply for the want of the "busy little bees" to gather it, whom our ignorance, cruelty and neglect have left to be destroyed, yearly, in order to get the fruits of their labor, which, by a proper system could be made to yield more than four-fold greater returns, ahd at the same time not rob these workers of their winter stores. Certainly the government should take steps to protect the most productive and industrious of our "workers" from the ruthless depredations of the human drone, and at the same time repair the damages done by their decimation, by importing Italian queens for breeding rapidly, as is now the custom among apiarists. This can be done more rapidly than fish can be bred, and there is no good reason, in fact none at all, why this step should not be taken.

Indeed, we are told, that those interested in bee culture will endeavor to place the matter before Congress at the next session, with a view to this end, and we hope such will be the case, and that it will succeed.

From the Phrenological Journal.

The Australian Bee-Hunter.

Insect food is much esteemed by the Australians, especially honey. In the procuring of the latter they show great agility and no little ingenuity; but it will be seen that the intellectual skill of the American bee-hunter has a great advantage over these untutored savages. When a native sees a bee about the flowers and wishes to find the honey, he repairs to the nearest pool, and, having filled his mouth with water, stretches himself on the bank of the pool, and patiently awaits the arrival of the bee. After awhile one is sure to come and drink, and the hunter, watching his opportunity, blows the water from his mouth over it, stunning it for a moment. Before it can recover itself, he seizes it, and by means of a little gum attaches to its body a tuft of white down obtained from one of the trees. As soon as it is released the insect of course makes for its nest, but its flight is somewhat retarded by the down. Now ensues a race. Away goes the hunter after the bee at his fullest speed. Whatever obstacle he meets with on his course he leaps over or plunges through, if possible, making light of the severe bruises from falls sustained in his headlong career. Having thus tracked the bee to its nest, the Australian looses no time in ascending to the spot, if in a tree, taking with him a hatchet, a basket and some dry leaves of grass. He lights the leaves, and under cover of the smoke, chops away the wood until the combs are exposed, then putting these in his basket, he descends and departs with his booty. Should the nest be a very large one, he is supplied by his friend, whom he acquaints with his discovery, with baskets or other vessels for its transportation from the tree to his hut.

Our Letter Box.

Webster Co., Iowa, July 8, 1876.—"Basswood is in full bloom. Bees are busy. I expect to extract on Monday. I have 33 stands, and they never have done better than this spring." E. A. TAYLOR.

Piatt Co., Ill., July 11, 1876.—"Bees are doing well here this season. I prize THE JOURNAL very highly, and hope soon to send you a few more new subscribers."
J. KEENAN.

Harrison Co., Mo., July 7, 1876.—"Bees never did better in this county than now."
ISAAC S. BRYANT.

Windsor, Ill., July 6, 1876.—"Bees are doing unusually well in this neighborhood. Our surplus is usually obtained in the fall only, but I have already taken 800 lbs. of white clover, about half comb and half extracted." H. F. SMYSER.

Madison Co., Iowa, June 24, 1876.—"I had full 2,000 lbs. of honey last season. Our bees averaged 50 lbs. or more to the colony, last season. I lost none from disease in the winter." MOSES BAILEY.

Indianapolis, Ind., July 8, 1876.—"I have had good success with my bees. I wintered 40 colonies, and lost but one, and that was queenless. I sold 2 early stocks for $40, before increasing; since then, have sold 15 more at $15 each, and have extracted 1,000 lbs. of honey. I have now 120 stocks in good condition, which I can dispose of at $10 each. I wish the old AMERICAN BEE JOURNAL much success."
W. A. SCHOFIELD.

Buchanan County, Iowa, June 27, 1876.—"My bees are doing well. I lost but one swarm in wintering. In the spring of 1875 I had 7 swarms. I sold $80 worth of box and extracted honey, and put 21 swarms in the cellar last fall. I got 20 to 25 cents per pound for the honey. THE JOURNAL has been of great service to me. I could not get along without it." E. P. BRINTNALL.

Douglas Co., Kansas, July 14, 1876.—"My bees are doing finely. Have 40 stands Italians and hybrids." C. E. DALLAS.

Marshall Co., Ill., July 17, 1876.—"I have now 41 stands of bees, and they have done well this season. I am making what I think is the most convenient hive. I have been thinking of sending one to the JOURNAL office; but as it is *not patented* don't know that it would pay me to do so, unless some might wish to make others from it—only buying my sample. I have sold over 200 hives to one man for his own use.
JOHN ROBERTS.

[If you send us one, we will examine it, and state what we candidly think of it.—ED.]

Hancock Co., July 17, 1876.—"My bees are doing well. I started with 16 colonies this spring, and now I have 52 colonies in good condition." WILLIAM THOMAS.

Fulton Co., Ky., June 11, 1876—"My bees are doing well this spring. From a few stands I got 120 lbs. nice extracted honey; obtained from a small white clover, the first I ever got from such. Some stocks were weak in the spring, owing to the effect of cheap hives. I always get my main crop in the fall." G. ILISCH.

Warren Co., Pa., June 7, 1876.—"I cannot consent to forgo the pleasure of the monthly visit of your excellent JOURNAL. With the exception of one or two numbers, I have a complete file from No. 1, Vol. I, to the present time. I have ten Vols. bound, and I prize them highly. My 150 colonies of yellow Italians make melody in the valley of the Brokenstraw, among the hills of the old Key-Stone State, with their busy hum. Long live THE AMERICAN BEE JOURNAL!" W. J. DAVIS.

Hadley, Ill., June 17, 1876.—"I have kept bees for the last 20 years and I never knew that the common speckled grass frog would eat bees till to-day. I saw one sitting on the bottom board; I caught him; he had a number of bee stings in his mouth. I looked around the bee yard and I caught four; all had bee stings sticking in their mouths. Henceforth, I shall send all frogs caught in my bee yard to the frog land. My bees commenced swarming last week. The pastures are white with clover, and it is yielding honey this year. We are having a great deal of high wind for this time of the year. I have 94 stands; the most of them in fine condition. Some of the best ones worked a little in boxes during fruit blossoms. My bees are almost all pure Italians. It looks now as though we were going to have a good season once more." F. SEARLES.

Sangamon Co., Ill., June 15, 1876.—"We have a remarkable white clover crop, and where bees were in a condition to gather, there are no lack of good results, but many colonies derived but little from a profuse fruit bloom, in consequence of early cool weather; they were too feeble to take the floods of nectar that perfume the atmosphere in this section. There has been much swarming from box hives and the smaller brood chambers, but where 2,000 cubic inches of brood chamber are provided, it is more rare. With me there has been a terrible fatality with queens, having lost 5 out of 12 colonies since I put them on their summer stands. In some cases it was too early to raise queens and I doubled up the swarms. Three at least, did not die of old age. I have blacks, hybrids, and Italians, but the 'golden bands' will keep ahead."

July 5.—"Honey flows abundant. Bees scarcely halt for dripping honey, if at all, and where properly managed (not managed to death) will make handsome returns for spring and summer. Have had fatality with queens that has puzzled me—unless the almost unparalleled number and variety of birds is an answer, for young queens. I am satisfied that bee culture can be made a success here, though but little forest range within reach of us. Am pleased at the better spirit that prevails in the fraternity. Less hobbies and more truth-seeking, more live and let live. Ye editors have much to do for the general weal."
W. W. CURNUTT.

Old Fort, N. C., July 21, 1876.—"Bees are doing well here." RUFUS MORGAN.

Allen, Mich., July 20, 1876.—"My bees have done splendidly this season, had 4 swarms in the spring and have 19 now, all Italians; no other on my place."
R. SOUTHWORTH.

Schoharie Co., N. Y., July 12, 1876.—"My bees are doing well, but I hear complaints from other bee-keepers that their bees are not doing what they ought to, in box honey or in swarms; and that they are weak. One man told me that he had a capital hive last season; it sent out three swarms, and that he would not take $10 for it. I remarked to him that if he and the old hive lived until the next spring, that he would be glad to accept a less offer for it. He was positive that it would live over, and wouldn't thank any man to offer him less than $10 for it. But alas, it went under last winter. I could not prevail on him to return all swarms after the first. The weather here for a few days has been quite warm.
ABM. L. STANTON.

Carroll Co., Iowa, July 13, 1876.—"My bees are doing well. I have 25 stands, some Italians and some blacks. I like the Italians best. As to their crossness I don't see much difference. I have kept bees three years. and have been taking the AMERICAN BEE JOURNAL during all the time; I like it well, and wish it success." R. DICKSON.

Dodge Co., Wis., July 18, 1876.—"It is quite a while since I last wrote. I had quite a rough time this spring. I had too much to take care of, as much as 20 different apiaries, and 24 miles between the farthest; besides I have to furnish all the materials for them, so I was not out of employment. We don't believe in box honey here. We get at the rate of 12 lbs. per day now by using little frames on top, 6x17 in., 9 to the hive. We can't use comb honey; for honey is so abundant now that we must empty every 3 days. I have opened several to-day and found the entire centre as well as the side crowded with honey; now, what will become of such a hive, with all boxes on top? Get the swarming fever and swarm until no brood, no bees, or queen is left. I also made more discoveries worth telling, but I will only mention one. I am particular to get nothing but pure stock, and keep only pure drones. I had a queen to-day that was getting ready to fly. I went to the best stock, got 25 or more drones, put them in the nucleus and watched for an hour. I then opened, and to my surprise, the queen was fertile. I am sure of two, with both good wings. You can't dispute this with me, for I watched in front.
JOHN H. GUENTHER.

[This rather sounds as if fertilization had taken place within the hive. The ability to control fertilization is very desirable, but most bee-keepers have given it up as unattainable. There have been a good many reports of success but somehow it always turned out that there had been some mistake in observation. We hope, however, friend G. will continue his experiments.—ED.]

Madison Co., Ill., July 21, 1876.—"In middle and southern Illinois, the spring season was late, but the summer came in well, and has given strong increase of swarms."
HENRY BOSSHARD.

Hamilton, Ont., July 11, 1876.—"The Rubber Gloves you sent me are received. I was informed that bees would not sting through them—but I don't want anyone to say that again." J. A. WATERHOUSE.

[We think it is something rare for bees to sting through rubber gloves, but we think most bee-keepers would consider any kind of gloves a nuisance.—ED.]

Waterloo, Pa., July 19, 1876.—"Bees are doing very well here thus far—not swarming much but laying by large stores of honey. With Winder's Choice Extractor in use they can be made pay a large per centage this season. I am using the Farmer's Hive, by Reynolds & Brooks, with my own improvement for wintering. For extracting and general convenience and ability, I think it has no superior. I have an Italian queen 5 years old, doing well. This season she has produced as many bees and as few drones as any queen in my apiary of 38 colonies. She is unusually large and her bees great workers. Can any one beat that?" J. E. KEARNS.

Grand View, Ky., July 17, 1876.—I have one stand that has swarmed three times. While one of my young queens has plenty of room, I frequently find two or three eggs in one cell. Why is this? J. C. STITH.

A young queen on first commencing to lay sometimes works a little irregularly. Whilst there may in some cases be plenty of empty comb there may be only a small portion properly taken care of by the bees, in which case the queen may lay more than one egg in a cell.—ED.]

I have 20 stands of bees, part black and part Italian. I made an effort and have partially succeeded in Italianizing my blacks. Have met with singular experience in so doing. I have not failed in one instance to get my queens to come out of cells all right, but 3 to 5 days after they hatched out the queens would mysteriously disappear. I am not mistaken in this, as the colonies would again accept queen cells. I have lost 20 or 25 queens in trying to Italianize 15 stocks. Has any of your readers had such trouble? I have tried so far in vain to learn the cause of the disappearance of my fine queens." J. H. W.

Your queens were probably lost on their trip to meet the drones. A young queen on her bridal trip may be caught by birds, or she may enter the wrong hive on her return and be killed by the bees. The latter is more likely to occur if the hives are near together and of the same color. Such a large loss is unusual.

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, SEPTEMBER, 1876. No. 9.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

GLEANINGS.

Novice says: "After some quite expensive experiments in the way of greenhouses, house apiaries, etc., we have come back to the out-door arrangement for hives." A sensible conclusion. He then advises the hexagonal arrangement, with hives 6 feet from centre to centre, with honey house in the middle and grape trellis to each hive. This is a good arrangement where the ground is all clear, but in the majority of cases, trees, buildings, etc., already standing, will have much to do with the location of hives.

How to Keep Box Honey.—G. M. Doolittle says:

Box honey should be kept, if possible, in a honey house made for that very purpose. This house should not be over 7 feet high, and should be large enough to hold all the honey you think you will ever produce, with room enough besides, for crating it. Some one asks, "Why not have a house higher?" Because we want to secure all the heat possible without a fire, during August and September; for this heat causes your honey to grow thicker every day instead of becoming transparent and standing in drops on the surface as did Mr. Wolfenden's. Honey swells only as it becomes damp from some cause, and the first you will see of that dampness will be in the unsealed cells, where the honey will have become so thin that it will stand out beyond the cells; or in other words the cells will be "heaping full." If the dampness remains, the sealed honey will become transparent, and eventually soak through and stand in drops on the surface of the comb. Now if you keep the room thus warm you will be liable to be troubled with the moth worm. Let your first honey taken off be separate, examine it every few days, and if you see many boxes with little white places on them (generally near bottom of box) resembling flour, you will have to brimstone it, as the moths will eventually eat the sealing all off and make a bad job of it.

We have always sulphured our honey with the exception of one year, the last thing before crating it. To do this, fix a solid foundation of scantling two feet above the floor, on this place your honey and whenever you think the moth should be headed off, get a pan of coals and set them in a kettle, or fix in some way to prevent danger from fire, and pour on ¼ lb. of sulphur to every 200 cubic feet contained in your room. Sulphur the last thing before crating if you wish to get a name as producing nice box honey. We have frequently seen honey in market with moth worms in the boxes from 1 to 1¼ inches long and nearly as large as a pipe stem. Such honey is not very tempting to the consumer. Pile the boxes so that all entrances will be open. The section boxes are nice on this account, as they will pile compactly tier on tier, and still leave ¼ inch space between every comb all through the pile. Never let box honey freeze on any account, as it cracks it loose from the box or through the centre of combs when it contracts. If you do not sell before freezing weather comes, keep fire in your room night and day. To deliver honey in cold weather, pile the crates up so the air from your room can circulate all around each crate, keep the temperature of room from 90° to 95° for 36 hours before moving it, and it will ride in open air 25 miles on a spring wagon, before it will get cold enough to be brittle.

With regard to marketable size of honey packages, Novice says:

A honey box can scarcely be made, to be sold, honey and all, for less than a half dollar; and a four or five pound box, even at the low price of 25 cents per lb., amounts to over a dollar. You may place them so as to catch the eye of the passer by, and they will inquire the price, but the number that can spare a dollar are few, compared with those with those who will hand over a quarter, or 30 or 40 cents for one of the neat little square cakes such as the section boxes contain.

Time to Divide.—Novice says: "We think it an excellent plan to divide very strong stocks after the honey harvest." We want light on this subject. May it not be a good plan for some and a bad one for others? The honey harvest in some places comes quite early, and in that case it would seem to be wise to keep the whole force gathering honey until the main harvest is over, and then divide. In other places the main harvest comes very late, and it would then seem wise to divide early, and build up an increased number of colonies to be ready for the harvest. Does it not require more judgment and experience to make an artificial swarm later in the season? There is a possibility of an insufficient amount of pollen being left in one or the other of the

hives, of the honey not being properly distributed in the hive etc.

LLOYD Z. JONES says in introducing a queen it is important to put a little honey on her back and stick her wings down so she can't *squeal*.

NOVICE advises against the use of rosin in waxing honey barrels as it in time gives a bad taste to the honey.

BEE-KEEPERS' MAGAZINE.

CARE OF COMB.—In an able article by Rev. J. W. Shearer, he advises that old comb, if not rendered into wax, should be burned, lest it become a nursery of moths. This advice is so generally given that we think there must be some occasion for it, but in our own experience we have never had the bee moth trouble pieces of comb lying outside of the hive, even if left the whole year. May it not be that the difference in climate has something to do with it? In the latitude of Chicago, perhaps the nights are too cool for the deposition of eggs, without the presence of the bees to keep up the heat.

MIGNONETTE.—In reply to a query, Mr. James Vick, the celebrated seedsman and florist, says mignonette is an annual, which in northern latitudes does not re-seed the bed, but must be sowed anew early in the spring, as soon as frost is gone and soil in good condition. Succeeds in any fair soil and in a growing time will flower in 4 to 6 weeks after sowing.

BEE WORLD.

The present number of the *World* closes a controversy between two queen breeders which has occupied a large space in the *World*, and the matter closes just about where it began, each party saying he has his last say. We can only ask, "What has been gained by occupying so many pages with a personal quarrel of no interest to the mass of readers?" Would it not be better to avoid the beginning of strife by carefully excluding all bitter personalities, allowing at the same time the fullest discursion in a kindly spirit of all points pertaining to bee-culture?

BRITISH BEE JOURNAL.

British bee-keepers were almost discouraged with the unfavorable season during the early part, but now are jubilant over the unusual flow of honey in July.

In a lecture by J. G. Desborough, he gives America the credit of inventing the honey slinger. The credit belongs to a German—Major Von Hruschka. It is said the idea was first suggested to him by seeing his little son whirling around in play a small pail to which was attached a string. In the bottom of the pail was a piece of comb honey, and the Major noticed that the honey was emptied out of one side of the cells. The hint was not lost, and the result was the extractor.

A poet speaks of the rose as furnishing supplies for the bees, and in a foot note the editor says "A poetic fancy, but not fact." Brother Abbott, you have only part of the truth. A few weeks ago we saw a honey bee and a humble bee both working on roses on the same bush. The imperfect roses, resulting from high culture, although beautiful to look upon, are not the sort that bees love to visit; but the wild rose, which produces seed, is visited by the bee. The same remark is made about the peony; but is it not just possible that the single peony, which produces perfect seed, yields honey also?

Fort Plain, N. Y., Aug. 11.—I send you by mail a queen of this year. She is laying eggs since June, which are barren; not a single egg of hers has ever hatched. If you think it of any interest I would beg you to try and find out by the microscope whether the fault lies in her organs or the eggs.

JULIUS HOFFMAN.

The queen from Mr. Hoffman was a fine Italian, very long considering her late journey, and to all appearances perfect within and without. The spermatheca was very full and plump. The ovaries large, and the tubes full of ovules. The oveduct contained several eggs. The only explanation that can be offered in such a case is that the eggs are sterile or not perfect.

We know that among our vertebrate animals we frequently see females that have perfect ovaries to all appearance in which the eggs grow, and yet the females are sterile or barren. Of course the egg is imperfect.

The egg is by no means a simple affair. The yolk or essential part possesses a nucleus and a nucleolus, called germinating vesicle and germinative dot respectively. Now it is probable that these sterile females, though possessed of ovaries in whose folicles eggs grow, are yet impotent to produce these essential parts. With the microscope I had I could not tell in regard to this.

A. J. COOK.

☞We would like a full report from all who have tried melilot clover, borage, catnip, alsike clover, or other artificial pasturage for bees—north, south, east, and west—setting forth the kind of soil they seem to do best in; date of first bloom and length of blooming period; if bees gather honey from them; color of honey; if the seed is saved, &c., &c. Please sit down at once and let us hear from you.

Swindling Operations.

FRIEND NEWMAN—I would like to ask if you know anything of such a firm in your city as J. K. McAllister & Co. They have swindled me out of a barrel of honey, and I think every person having honey for sale should be warned against shipping to them. I sold them the honey at 11 cents per lb. delivered in Chicago, in the months of Feb. or March, and have never received one cent for it yet. They put off paying for it, saying it was not pure honey; but that they would have it analyzed and if it proved to be pure, would pay me for it, and stated that it would be analyzed by the 15th of May. Nearly three months have passed since the day set for it to be analyzed and I am minus my pay yet.

Please publish the following letter from them which will be a good advertisement for their house.

CHICAGO, June 12, 1876.

J. F. Montgomery, Lincoln, Lincoln Co., Tenn.—Your postal card of the 7th inst. to hand. We will say, if you do (or have done) as you say, we will fight the payment of your claims to the bitter end. We stated that you would be paid for your honey if it were shown to be pure on analysis or could be sold for pure honey. When your last postal came to hand we answered saying that no report had been given, we would in all probabiiity know by the 15th or thereabouts, and when a report was given we would remit. Now if you think to choke it out, all we have to say is try it on. Our reputation is worth more than a barrel of Tennesee honey, and your course is not the best to pursue, if you calculate to get your pay. A lawyer of this place who had some of it, says it is not pure, and if we do not wish to pay for it he will defend us in a suit, without one dollar of expense. This, however, is not our desire, but if you force us to it, with yourself rests the blame. J.K.McALLISTER & CO.

The letter speaks for itself.

Your readers will be surprised to hear that the Common Sense bee hive man—Gillespie—has actually brought suit against me for using two-story bee hives, and for publishing an article in our county paper warning bee-keepers not to pay him for using two-story hives. He claims that I have damaged him $10,000, for which amount he has sued me in the U. S. Court. His claim which is as follows is certainly absurb:

Claim 1.—The angular metallic strips A and pins B in combination with the frames I, substantially as set forth.

2.—The combination of the rabbeted sections and parts A, B, C, D, frames I, pins B and angular plates A; all as set forth.

He has also filed a bill enjoining me to make no more two-story hives. The trial will come off at Nashville, the latter part of October. His patent is dated Jan. 11, 1870. If he succeeds in showing that it covers all two-story hives I will have to invalidate it by proving previous use. And I would like for all your readers who have used two-story hives previous to 1870 to write to me stating how long they have been using them, so that I may have their depositions taken. My hive is a simple two-story Langstroth, with frames running the short way instead of lengthwise. All information will be thankfully received.

I am making the fight for every bee-keeper in the U. S. using two-story hives, and I think I am entitled to all the assistance I can get. J. F. MONTGOMERY.

Lincoln, Lincoln Co., Tenn.

J. K. McAllister & Co. sent to this office an advertisement for consignments of honey some 18 months since, As they furnished no satisfactory references it was refused!

At Mr. Montgomery's request, last April, the publisher of the A. B. J. went to McAllister's to examine the weight and quality of this shipment of honey. As much of it had been disposed of, there was no chance to see the weight, and a small bottle of inferior honey was exhibited as a sample of it —McAllister's bare assertion, however, being the only proof that it was a part of the Montgomery honey. These facts were reported to Mr. Montgomery at once, with the advice to get all he could, and "settle" the claim, as it could not be considered first-class in any respect.

As to the matter of two-story hives, Mr. Montgomery ought to get down on his knees and thank Mr. Gillespie for his long forbearance in allowing him so many years undisturbed use of his invention. Just think of the patience of the man! All over the country men have been defrauding him in sums of $10,000 each, and yet not one of them has ever paid him a cent for the privilege of putting one hive on top of another. It would be difficult to find a bee-keeper who has not infringed on Mr. Gillespie's patent. Years and years ago the thing was done and continues to this day, without even asking permission of Mr. Gillespie! But it is time the thing was stopped, and we hereby notify each of our readers to send immediately the little matter of $10,000 to Mr. Gillespie, or nevermore put a second story on a hive. Those who do not now keep bees, but whose fathers did, must add interest to the $10,000 for the use their fathers made of the invention before Gillespie was born. Think not to evade it by saying that the second story is not the same size or shape as the lower story. The upper story may be shorter or longer, it may be ten inches high, it may be five inches high, it may be only five inches high and the same in width and length, and the attempt made be made to evade payment by calling it a surplus box or super, still in any and all cases it is a second story and the $10,000 must be paid. In consideration of our thus pleading the rights of Mr. Gillespie, we hope he will be as lenient as possible in assessing the penalty for using two story hives in our own apiary.

We are glad to learn that there is a lively demand for Prof. Cook's Manual of Bee-Keeping. Thirty cents cannot be spent to better advantage by any of our readers who have no work of the kind.

An Extractor to be Given Away.

Mr. A. G. Hill has sent us one of his Gas-Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before November 1, 1876. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

We will add the following:

For the second largest list, we will give a tested Italian queen in May, 1877.

For the third largest list, we will give a copy of THE AMERICAN BEE JOURNAL for 1877, post-paid.

For the fourth largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 246 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once*.

Give Plenty of Room and Honey.

In most localities the season has been one which has yielded an unusual harvest of honey, and many hives which have been left to take care of themselves will be in bad condition for winter by reason of their plentiful stores. Especially where the flow of honey has continued up to the first of September, no time should be lost in examining every hive to see that room enough is left for the occupancy of brood. If every frame is filled with honey, except a shallow depth at the bottom of part of them, the colony will scarcely survive the winter. If any colonies need to be fed no better use can be made of some of the frames of honey in the over-full colonies than to give them to those which have not sufficient stores for winter, returning empty combs in place of the full ones. If this cannot be done then extract the honey from one or more of the combs and have plenty of empty worker cells in the middle of the brood nest. Do not, however, go to the other extreme, and extract most of their honey, thinking there will be time enough for them to fill up, and if not they can be fed. There is nothing lost by leaving a liberal allowance of honey, and at this season of the year there should be at all times enough honey left in the hives so that if a sharp frost comes and suddenly cuts off the harvest, there will be no necessity to feed for winter. If the yield should continue so as to fill up the hives again, it will be easy to extract again. We are aware that this advice will be lost upon some of the very ones who need it. Having little experience and thinking because honey is still being gathered there is no need yet to think about winter, they will be so anxious for a larger yield of honey that they will plan to leave just as little as possible in the hives, and perhaps feed too late, or have colonies so weak in stores in the spring that they will build up very slowly. We do not pretend to have fully solved the problem of wintering and springing bees, but are strongly of the opinion that one important factor in the problem is to have plenty of stores and at the same time have plenty of room for the queen to lay. If more honey is left in the hive than will be used in wintering it will not be wasted, and in the spring the bees will increase their numbers more rapidly if they feel that they have plenty. Better extract the overplus at the beginning of the harvest than to try to leave just as little as will carry the bees through.

Novice inquires, in August number of *Gleanings*, if the AMERICAN BEE JOURNAL or any one else knew that McAllister & Co., of Chicago, were of the fraudulent sort why they did not say so? Now look here, Novice, you may wish you hadn't put that chip on your shoulder. THE AMERICAN BEE JOURNAL tries to be a little careful not to speak too hastily on subjects of which it is not fully informed. Some eighteen months ago the advertisement of J. K. McAllister & Co. was refused by the publisher of the AMERICAN BEE JOURNAL because he was not furnished with satisfactory references, but this lack of information did not warrant publishing the firm as a fraud. Has there been more than one case of unfair dealing reported of them?

Not long ago we ordered a small package of comb foundation, and after putting it into the hives it stretched down in such a way that each particular cell seemed to be making faces at us. Should we not immediately have warned the public that the party was a fraud, sending out what was worse than worthless? Had we done so, hastily, we might have regretted it, for very shortly afterward he gave notice that he had discovered that the material did not work right, and he stood ready to make good all damages. So it is best to go slow and sure in such matters.

The firm of King & Slocum, publishers of the *Bee-Keepers' Magazine*, of New York, has been dissolved. Mr. Slocum retiring and Mr. Turner taking his place, under the firm name of A. J. King & Co. The new firm has our best wishes for success.

Comb Building.

Huber thus describes the process of comb building. He speaks of two kinds of workers—"wax-makers" and "nurses." This is an error. There is but one kind of bees. Young bees are the "nurses" and "comb builders," while the older bees gather the honey. He says:

The wax makers, having taken a due portion of honey or sugar, from either of which wax can be elaborated, suspend themselves to each other, the claws of the fore-legs of the lowermost being attached to those of the hind pair of the uppermost, and form themselves into a cluster, the exterior layer of which looks like a kind of curtain. This cluster consists of a series of festoons or garlands, which cross each other in all directions, and in which most of the bees turn their back upon the observer; the curtain has no other motion than what it receives from the interior layers, the fluctuations of which are communicated to it. All this time the nurse bees preserve their wonted activity and pursue their usual employments. The wax makers remain immovable for about 24 hours, during which period the formation of wax takes place; and thin laminæ of this material may be generally perceived under their abdomen. One of these bees is now seen to detatch itself from one of the central garlands of the cluster, to make a way amongst its companions to the middle of the vault or top of the hive, and by turning itself round to form a kind of void, in which it can move itself freely. It then suspends itself to the centre of the space which it has cleared, the diameter of which is about an inch; it next seizes one of the lamina of wax with a pincer formed by the posterior metatarsus and tibia, and drawing it from beneath the abdominal segment, one of the anterior legs takes it with its claws and carries it to the mouth. This leg holds the lamina with its claws vertically, the tongue rolled up serving for a support, and by elevating or depressing it at will, causes the whole of its circumference to be exposed to the action of the mandibles, so that the margin is soon gnawed into pieces, which drop as they are detatched into the double cavity, bordered with hairs, of the mandibles. These fragments, pressed by others newly separated, fall on one side of the mouth and issue from it in the form of a very narrow riband.

They are then presented to the tongue, which impregnates them with a frothy liquor like a bouilli. During this operation the tongue assumes all sorts of forms: sometimes it is flattened like a spatula, then like a trowel, which applies itself to the riband of wax; at other times it resembles a pencil terminating in a point. After having moistened the whole of the riband, the tongue pushes it so as to make it re-enter the mandibles, but in an opposite direction, where it is worked up anew. The liquor mixed with the wax communicates to it a whiteness and opacity which it had not before; and the object of this mixture of bouilli, which did not escape the observation of Reaumur, is, doubtless, to give it that ductility and tenacity which it possesses in its perfect state.

The foundress bee, the name which this first beginner of a comb deserves, next applies these prepared parcels of wax against the vault of the hive, disposing them with the point of her mandibles in the direction which she wishes them to take; and she continues these manœuvres until she has employed the whole lamina that she had separated from her body when she takes a second proceeding in the same manner. She gives herself no care to compress the molecules of wax which she has heaped together; she is satisfied if they adhere to each other. At length she leaves her work and is lost in the crowd of her companions. Another succeeds and resumes the employment; then a third; all follow the same plan of placing their little masses; and if any, by chance, gives them a contrary direction, another coming removes them to their proper place. The result of all these operations is a mass or little wall of wax, with uneven surfaces, five or six lines long, two lines high, and half a line thick, which descends perpendicularly below the vault of the hive. In this first work is no angle nor any trace of the figure of the cells. It is a simple partition in a right line without any inflection.

The wax makers having thus laid a foundation of a comb, are succeeded by the nurse bees, which are alone competent to model and perfect the work.

The former are the laborers, who convey the stone and mortar; the latter, the masons, who work them up into the form which the intended structure requires. One of the nurse bees now places itself horizontally on the vault of the hive, its head corresponding to the centre of the mass or wall which the wax makers have left, and which is to form the partition of the comb into two opposite assemblages of cells; and, with its mandibles rapidly moving its head, it moulds in that side of the wall, a cavity which is to form the base of one of the cells to the diameter of which it is equal. When it has worked some minutes it departs, and another takes it place, deepening the cavity, heightening its lateral margins by heaping up the wax to right and left by means of its teeth and forefeet, and giving them a more upright form; more than twenty bees successively employ themselves in this work. When arrived at a certain point, other bees begin on the yet untouched and opposite side of the mass, and, commencing the bottom of two cells, are in turn relieved by others. While still engaged in this labor, the wax makers return, and add to the mass, augmenting its extent in every way, the nurse bees again continuing their operations. After having worked the bottom of the cells of the first row into their proper forms, they polish them, and give them their finish, while others begin the outline of a new series.

The cells themselves, or prisms, which result from the reunion and meeting of the sides, are next constructed. These are engrafted on the borders of the cavities hollowed in the mass; the bees begin them by making the contour of the bottoms, which at first is unequal, of equal height; thus all the margins of the cells offer an uniformly level surface from their first origin, and until they have acquired their proper length. The sides are heightened in an order analogous to that which the insects follow in finishing the bottoms of the cells; and the length of these tubes is so perfectly proportioned that there is no observable inequality

between them. It is to be remarked that though the general form of the cells is hexagonal, that of those first begun is pentagonal, the side next the top of the hive, and by which the comb is attached, being much broader than the rest, whence the comb is more strongly united to the hive, than if these cells were of the ordinary shape. It, of course, follows that the base of these cells, instead of being formed like those of the hexagonal cells, of three rhomboids, consist of one rhomboid and two trapeziums.

The form of a new comb is lenticular, its thickness always diminishing towards the edges. This gradation is constantly observable, whilst it keeps enlarging in circumference; but as soon as the bees get sufficient space to lengthen it, it begins to lose this form and to assume parallel surfaces; it has then received the shape which it will always preserve.

The bees appear to give the proper forms to the bottoms of the cells, by means of their antennæ, which extraordinary organs they seem to employ as directors, by which their other instruments are instructed to execute a very complete work. They do not remove a single particle of wax until the antennæ have explored the surface that is to be sculptured. By the use of these organs, which are so flexible and so readily applied to all parts, however delicate, that they can perform the functions of compasses in measuring very minute objects, they can work in the dark, and raise these wonderful combs, the first production of insects.

Every part of the work appears a natural consequence of that which precedes it, so that chance has no share in the admirable results witnessed. The bees cannot depart from their prescribed route, except in consequence of particular circumstances, which alter the basis of their labor. The original mass of wax is never augmented, but by an uniform quantity; and what is most astonishing, this augmentation is made by the wax makers, who are the depositories of the primary matter, and possess not the art of sculpturing the cells.

The bees never begin two masses for combs at the same time; but scarcely are some rows of cells constructed in the first, when two other masses, one of each side of it, are established at equal distances from it, and parallel to it, and then again two more exterior to these. The combs are always enlarged and lengthened in a progression, proportioned to the priority of their origin, the middle comb being constantly advanced beyond the two adjoining ones by some rows of cells, and they beyond those that are exterior to them. Was it permitted to these insects to lay the foundation of all their combs at the same time, they could not be placed conveniently or parallel to each other. So with respect to the cells, the first cavity determines the place of all that succeed it.

A large number of bees work at the same time on the same comb; but they are not moved to it by a simultaneous, but by a successive impulse. A single bee begins every partial operation, and many others in succession add their efforts to hers, each appearing to act individually in a direction impressed either by the workers who have preceded it, or by the condition in which it finds the work. The whole population of wax workers is in a state of the most complete inaction, till one bee goes forth to lay the foundations of the first comb. Immediately others second her intentions, adding to the height and length of the mass; and when they cease to act, a bee, if the term may be used, of another profession, one of the nurse bees, goes to form the draft of the first cell in which she is succeeded by others.

"So work the honey bees,
Creatures that by a rule in Nature, teach
The art of order to a peopled kingdom."
—SHAKESPEARE.

From the English Manual of Bee-Keeping.

Effects of Stings.

Mr. G. Walker, of Wimbledon, has recorded an experiment he made on himself to try how long, and how many stings, it would require to get inoculated. He gives the following as the *modus operandi* and result, viz:—

I went to one of my hives, caught a bee, placed it on my wrist, and allowed it to sting me, taking care that I received the largest amount of poison by preventing it from going away at once; then I let the poison-bag work, which it does for some time after being separated from the bee. The first day I only stung myself twice. A bee sting has always had a very bad and injurious effect on me, inasmuch as it has always caused a great amount of swelling and pain; in fact, once when stung on my ear, the part became so painful and swollen that I hardly got any sleep the following night, and it was three days before I recovered. The first few stings I got during this experiment had the usual effect; the whole of my fore-arm was affected with a cutaneous erysipelas, and there was disorder of the muscular nerves, accompanied with heat, redness, swelling and pain. This attack lasted till Tuesday, and on Wednesday (October 7th) I was so far recovered that, following the same plan, I stung myself three times more also on the wrist. The attack of erysipelas this time was not nearly so severe; but, as before, I felt a stinging sensation as far up as my shoulder, and I noticed that a lymphatic gland behind my ear had increased considerably in size, the poison being taken up by the lymphatic system. On Saturday (October 10th) I again treated myself to three stings, and the pain was considerably less, though the swelling was still extensive. At the end of the next week (October 17th) I had had eighteen stings; then I stung myself seven times more during the next week, and I reached the number of thirty-two on October 31st; the course of the experiment having lasted nearly four weeks. After the twentieth sting there was very little swelling or pain, only a slight itching sensation, with a small amount of inflamation in the immediate neighborhood of the part stung, which did not spread further; and I stung myself on November 8th, without its having any effect on me.

SEND NAMES.—Our friends will greatly oblige us by sending the names of such of their neighbors as keep bees and do not take THE AMERICAN BEE JOURNAL, and we will send them a sample copy.

Biographical.

The late Adam Grimm.

Adam Grimm was born in Germany, in the year 1824. His father kept a few hives of bees in which Adam took deep interest, and did not rest satisfied till he himself became the owner of a few colonies.

He emigrated to this country in 1849, settling at Jefferson, Wis., on a farm where he remained until the time of his death, which occurred April 10, 1876. Soon after settling at Jefferson he obtained a few colonies of bees and was so successful with them, that at a time when all other crops failed, his bees came to the rescue and helped him over the most critical time of his life.

In 1863 he had increased his apiary to 60 stocks of black bees in all sorts of box hives, and in 1864 he commenced to use frame hives and transferred all his bees into them. In the same year—1864—he bought his first Italians and as rapidly as possible Italianized his apiary, and then sold large numbers of Italian queens all over the country.

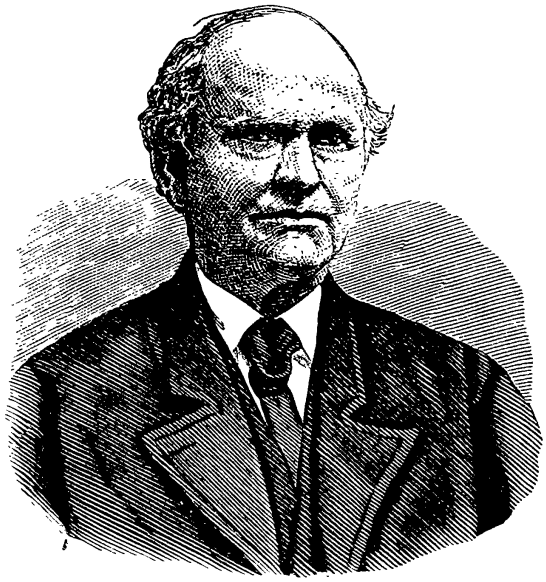
About 1869 or 1870 he imported, personally, 100 Italian queens, 60 of which were alive on their arrival at New York. Of this number he introduced 40 in his own apiaries. He increased his stock regardless of cost, every year, but had larger returns especially in late years both from the sale of honey and bees. Queen rearing he thought unprofitable.

He had an intense enthusiasm in the business and worked so hard in the apiary as probably to shorten his life. His success was the cause of many others engaging in the business.

He established a bank at Jefferson, of which he was cashier, (his bees having provided the capital) but during the honey harvest he left the bank to the care of employees and went from one apiary to the other, personally supervising all that was done.

We shall not soon forget two or three pleasant visits which we made at his home with his interesting family. He told us that his wife remonstrated with him for working so hard, telling him that he now had a competence, and could give up his bees with the laborious care of so many, but he seemed to think the returns were large for the amount of labor, making the work still a pleasure, although no longer a necessity. He reached the number of 1,400 colonies, and on one of our visits when he had nearly 1,000 colonies, he said, with a half-comical expression, "What would I do if all should die in the winter?" And then the comical look giving way to one of German determination, he said, "I would buy some more, and with so many hives full of empty comb I would show you how soon I would fill them up again."

His daughters, Katie and Maggie, (since married) were his able and faithful assistants, and the son, George, since his father's death has assumed the principal care of the bees, for which he is well fitted by his previous training.



Truly Yours,

Adam Grimm

Correspondence.

For the American Bee Journal.

Queens' Friends and Foes.

I have practiced introducing queens by merely waiting till queen cells were started, and then placing the queen on the comb amongst the bees, without using any precautionary measures whatever, and have never failed when honey was yielding, but have often noticed that in front of such a hive shortly afterward, a number of dead bees would be found on the ground. For a long time it puzzled me to know what this meant, but I finally came to the conclusion that the bees had a battle amongst themselves, one party attacking the newly introduced queen, and the other party defending her, and that the dead bees in front of the hives were slain in such battles.

About the middle of last July in extracting the honey from a two-story hive, I found the queen in the upper story with brood scattered through both stories. In order to be sure to put the queen where I wanted her to be, after I was through overhauling both stories, I put her in a tumbler turned upside down over a sauce dish. After finishing my work with the hive, I placed the queen on top of the frames and she was immediately attacked. I took out the ball of bees which enclosed her, and as I did so a small cluster dropped off the main ball, and this small cluster remained clinched evidently battling one another. I then dropped the ball containing the queen in a tumbler of water, but instead of separating they remained in a firm ball. After they had become motionless from drowning, I took them out and easily separated the queen, which I placed on top of a hive cover in the shade, to dry off and revive. On the top of the frames where I had placed the queen I found two bees which had just been killed at the spot where the queen was. I then closed up the hive and looking at the tumbler and sauce dish which had contained the queen, I noticed that the dish was soiled by bees which had been previously in it, (for I had been using it all day to hold different queens) and undoubtedly the strange and unpleasant odor given to the queen, by being in the soiled dish was the cause of the bees attacking her. After the queen had revived, I daubed her with honey and placed her on the porch, where she was caressed by the bees which first met her, and very soon quite a crowd collected about her. Gradually the appearance of the bees assumed that doubtful aspect, in which you scarcely know whether they are foes or friends to the queen Very soon the queen was enveloped by a large mass of bees. She was a choice queen and I was very anxious for her safety, but it was growing late in the evening and I was to leave the next morning, so I decided to let the bees take their own course. I visited the hive the last thing before going to bed, but found no change in the situation. I put a quilt in front of the hive so that I might find the dead queen thereon if she was killed. I went to the hive the first thing in the morning and found the cluster shifted from the porch to the side of the hive, smaller in size and less compact. Whilst I was watching them, the queen emerged from the cluster, and quietly walked into the hive. On the quilt were the slain bodies of some thirty workers. On visiting them two weeks later I found the queen doing faithful duty, as if nothing had happened.

Very clearly here were two different parties; and I do not remember ever to have seen this matter mentioned by any one except Mr. Chas. Dadant. Can the knowledge be turned to any practical account?

B. LUNDERER.

For the American Bee Journal.

Bees Stinging to Death.

While the Prussian army at Sadowa was fighting the Austrian forces, one of their batteries took position in a walled garden. In this garden, behind the guns, were a few stands of bees. The walls of the garden had been bored to make battlements, so that the gunners protected against the fire of the enemy could point their guns from behind the shelter of the high stone walls. Suddenly a bombshell fell in the garden, not far from the bees and bursting struck the hives. The bees became angry and rushed on the gunners and horses. Men and horses were literally covered with stinging bees. The guns were deserted and in spite of the haste of the retreat, several horses were killed, two men could not recover, and many others were several weeks before regaining their health.

The Franco-Prussian war had also a few episodes in which bees have played their part. At the battle of Beaumont, in the village of Warniforet, a farmer had about 60 bee hives. When the Prussians invaded the village, some soldiers, elated by their success, had the unhappy idea of feasting with honey. They had routed the proud French army, could a few small insects resist their attacks? With their sabres they loosened hastily the caps of most of the hives to rob their contents. The bees astonished at such an affront remained quiet a few instants, then rushing *en masse* they made a vigorous attack on their assailants. Four Prussian soldiers were killed instantly, four more did not recover, and several others remained for months in the ambulance before being able to resume service again.

Dr. Schweinfurt, in relation of his expedition across Central Africa, narrates that, while he was ascending Bahr-el-Abiad—one of the forks of the upper Nile—the wind being contrary his boat could not use its sails. Some men were sent on shore to tow it with a rope. This rope while dragged on the ground hit and disturbed a bee hive. The revenge of these insects was not long delayed. A full swarm fell on the towers, who hastened to jump into the river to repair to the boat by swimming. The bees followed them to the boat and in their fury attacked all the crew, even the botanist who was in his cabin quietly occupied in fixing plants in his herbarium. There was a general rush out. The Doctor himself jumped into the river to escape the fury of the insects. Little by little the bees returned to their hive and quietness was restored. When the battle was over it was found that two men had been stung to death, and there were as many wounded as

were men on board. Schweinfurt adds that all the flotilla which was following him numbering 16 boats were equally assailed by these revengeful insects.

Egyptian bees are far worse than the races of bees known here and worse than the bad hybrids. Nothing can quiet them when their anger has been aroused. The writer of this article has seen two Egyptian colonies in the apiary of Count Barbo, in Italy. For weeks after their hives had been opened for some operation nobody could go within 15 yards of their hives without being stung.

Every bee-keeper should remember that when a person has received many stings the first thing to do is to remove the stings by slipping the edge of a knife on the skin. Pinching the sting with the fingers would empty the venom bag into the wound. The best way to prevent evil consequences is to envelop entirely the patient in a thick wet cloth and to cover him with blankets in order to stimulate the perspiratory organs. A tablespoonful of common salt should be dissolved in the water to be used, then two or three spoonsfuls of ammonia should be added and mixed. Care should be taken that the patient breathe not too freely the vapors of ammonia. To drink one or two drops of ammonia in a glass of water or tea would greatly prevent the swelling from spreading on the parts of the body that have not been stung. CH. DADANT.

For the American Bee Journal.

Growlers.

Who are growlers? Answer: those who speak against any popular opinion. To speak the opinions of the majority is patriotic. To speak those of the minority is growling. Every grand truth through all the past ages has been held up by the shoulders of the few. Error sweeps over the land like a mighty flame fanned by a thousand breaths. We very much dislike to see in our journals, personalities or quarrels between man and man, but those between mind and principles, plans, etc., are the guide-boards to success.

If to battle, kill, and throw overboard petted plans is growling, A. I. Root is the boss growler. In "Our own Apiary," for August, "do you find boxes are among the things that were?" No, this was written a few years ago. Novice, do you mean to say that bees will go way up through all these stories of comb and work on top? That's heresy; modern bee-culture says: "pull off and throw away those honey-boards and set your boxes right down on the frames." Why I thought the house apiary was particularly designed for the extractor. I thought the house apiary for comb honey was growled out in a back number We growled out what you now say in regard to one and two-story hives, over one year ago at our State convention. Novice, don't you undertake to steal any of our ancient thunder, such as watching our colonies close, and see that they always have room during the honey months. What do you suppose keeps us, simplicity, old-style bee-keepers busy from 12 to 15 hours per day? Why may I not as well growl against comb foundations now, as for you to growl against stimulative and all kinds of liquid feeding? Is it a crime to find out the error of a system a little in advance? Is that what some of our apiarian brothers, who hate a ripple but seem to love the silent stagnant pool, call growling?

"Let anarchy's broad tnunder roll,
And tumult do its worst to thrill,
There is a silence, to the soul
More awful and more startling still."

And here it is, for it tells nothing.

"My beautiful yellow pets have made some surplus (which we all like to eat), and have increased from 5 to 80 colonies. We have not spent much time nor money with them, and, though this is our first year, we know we can make 500 lbs. out of the dear little creatures. Any one who says we can't, is a growler, and very disagreeable. Long may you wave Mr. Editor.

EPHRIHAM DO-EASY."

"Light draughts intoxicate the brain,
While drinking largely sobers us again."

Time is a quaint old gent, and carries a sharp reaper and mower, (old style) but that he will never sever the goodwill between all brother bee-keepers is the earnest wish of your subscriber. Let us seek the naked truth wherever she may be secreted.

If the black bee has good qualities, let us hear of them occasionally. If it be a fact that movable frames have objections, let us point them out. I am carefully testing 8 lbs. of white and yellow foundation from each of Messrs. Perrine and Root, and am sorry to say, up to this date, they seem to be hunting a seat among the impracticables thrown overboard. Will report in full by and by, and wish to hear from others.

JAMES HEDDON.

Dowagiac, Mich., Aug. 4, 1876.

For the American Bee Journal.

Controlling Swarming.

On page 181 "A Beeasticus" says, "Now, this talk about controlling the swarming propensity of bees is all a humbug from beginning to end. If the season is propitious and your bees come out strong and healthy in the spring, they will swarm more or less, and there is no effectual way of preventing it." Now friend B., I say there *is* a way and we do it every time. When the swarming time came our bees were very strong, hives chock full of brood and bees. We use a frame 11½x13¾, 12 to 16 frames to the hive, and have never had a swarm come off since we left the box hives 5 years ago. All around us the swarms have been coming off thick and fast, one man from 10 has run up to 38 at last accounts, and has sold some. Others have had swarms but not in so large a proportion. You may say it's my large hive that does it. No sir, for a friend has 10 of them, wintered the same, etc., and they have swarmed 4 times. I take care of them for him but could not get time enough to keep them from swarming. All I do is to work with them whenever he calls, if I have time. How do I keep them from swarming? Simply by pinching off the queen cells, not only the large ones, but everything even down to the little cups just started, once in every 5 or 6 days, sometimes let them go a week or ten days. We now have 13 strong stocks and three that will be as strong as any in a short time.

We have had a great deal of rain this season and in consequence bees have done

finely, hives full of honey, besides what we have taken out. White clover covers the ground all around us, and with small patches of catnip and one little patch of rape, gives the bees plenty to do, though just now it is too cool for them to do much.

"Beeasticus": I am sorry you do not give your right name, for I think an article tenfold more interesting if we can know who the writer is.

Friend Heddon: I agree with you as regards this trying to get every man, woman, and child to keep bees. Why in the world don't you keep bees? Such big profits we make. Well, let us make them and keep it to ourselves, or only tell it to those who are already in the business and take the journals, and let the others alone.

WM. M. KELLOGG.

Oneida, Ill., July 24, 1876.

[The matter of controlling swarming is a very interesting one, especially for those who wish to obtain honey in the comb. Do you work for comb-honey or extracted, friend Kellogg? We think it would be much easier to keep down the swarming impulse if the extractor is freely used. The important problem with some is to keep the bees from swarming while working in boxes. Many cases are reported of Italians swarming without starting any queen cells. Is a wet season best for honey? If we remember rightly, Quinby says the best season is when a drought is threatened.—ED.]

For the American Bee Journal.

Italian vs. Black Bees.

This is my third year's experience in bee-keeping at this place. I commenced with 8 stocks of Italian bees. I bought 50 stocks of black bees from different parties, Italianized about one half the first season. I put on boxes during buckwheat and to my surprise the black bees were the first to commence in the boxes and gave by far the best yield though the Italians were the strongest. The next season I put on the boxes early and gave the Italians every advantage but the blacks were the first to commence and kept ahead all the season.

This season I commenced with 65 stocks, about one half Italians and hybrids. Commenced boxing during fruit bloom, but the weather was cold and windy; none commenced in boxes until white clover, June 5. The clover season ended July 5, it was the best I ever knew, while it lasted. My best stock of black bees put up 150 lbs. of white honey in 4 lb boxes, while the best Italians put up 120 lbs. Several stocks of blacks went from 100 lbs. to 140 lbs., only one Italian reached 100 lbs.; yet the stocks were all strong and in good condition in the spring. After this experience I am forced to the conclusion that as box workers the black bees are the best. Where the extractor is used the Italians are all that is claimed for them. I only use the extractor as a necessity. Box honey is my hobby. Bees have just commenced on buckwheat, the prospect is good for a fine crop.

JOHN VANDERVORT.

Wyoming Co., Pa., Aug. 15, 1876.

For the American Bee Journal.

My Bees.

I went out July 28 and found three more natural swarms had been added. Many of the hives were so crammed with honey that the queen had very little room for eggs. On my previous visit I had run out of frames, and had left some of the new swarms with hives only half filled with frames as they were so weak that I thought they would need no more for a couple of weeks, but in this I was mistaken, and in some of them combs were built from the quilt. My object was to take just as little from the bees as possible, for I was more anxious to leave them strong than to get honey. I had ordered some hive material from Oatman & Sons with some misgivings as to whether it would be just exactly right, but I could not have asked for greater exactness, so I filled all up with frames where needed, extracted some of the combs. took others from the strong and gave to the weak, and started 11 more new colonies which made the total number 84. Where I took full frames from a hive I gave in their place in most cases frames of foundation.

I find it works best not to have the foundation come very near the bottom bar. It might do in tolerably cool weather or in a weak colony but in a strong colony the bees will commence work on the whole surface of the foundation, and the weight of so many bees when the weather is hot enough to soften the wax, makes it stretch and double over on the bottom bar. Perhaps a depth of 6 inches gives the most satisfactory results, but in that case the bees will add some drone comb in some of the frames. About a quarter of an inch space at the side seems to work well. I would suggest to those who have many frames to fill with foundation, to have the melted wax, or wax and rosin, in something like a kerosene can, so that the constant dipping of the tea spoon may be avoided, and the little spout of the can may be easily directed where the melted material shall trickle along the edge of the foundation. It is quite important that the edge which is cemented to the frame shall be cut perfectly true to make quick and easy work. If the foundation is to be used for brood comb rosin and wax may be used for cement; but if for comb honey, wax alone must be used or care be taken, in cutting out, that none of the cement be on the comb. B. LUNDERER.

For the American Bee Journal.

Can Bees Hear?

MR. EDITOR:—My manipulations with bees for this season are nearly over; and as I promised to experiment further in answer to the above question, I will now, with your permission, give the result of my experiments:

Sound is transmitted by wave-motion through the air; the intenser the sound, the more powerful the wave, so that by their increased force objects with which they come in contract are brought into a tremor, and are even broken by their force.

Sound always produces a tremor or jar. The finer the structure of the organ for the reception of sound the slighter the sound may be to be detected by that organ. No

living creature is absolutely deaf or without the power to detect sound. Some may have no special organ for hearing, yet they feel the effects of sound if sufficiently powerful to jar them.

Entomologists give the bee no organ of sound—at least not to my knowledge—and some treatises do not even theorize whether they can or cannot hear. Whether the fact that they can hear or not will ever, as far as utility is concerned, effect the success of the apiarist remains to be learned. If a little theorizing be in order, I would say that I believe if they can hear we will, after learning the effect a peculiar sound has upon them, be enabled to control many of their movements, among which swarming will be the most prominent; the discarding by intelligent bee-keepers of tin pans, bells, etc., to the contrary notwithstanding.

I regret to say as regards the investigation of this subject, that I have had no experience this season with absconding swarms, but such other experiments tried and observations made I will now briefly give. In making nuclei I found, after shaking bees into it and after they had struck up a quick march around the hive and were making the air vocal with the music, by holding a card with adhering bees, taken from the hive I was dividing, directly over them, the bees on the card, though quiet before, would soon "come in on the chorus" and make their way for the line of march. I also found by going up quietly behind a hive after dark and clapping my hands several times near the hive and out of their sight—supposing they can see after dark—it had the effect of checking the hum produced by ventilating the hive, and for a couple of minutes all was quiet, and the sentinels at the entrance were reconnoitering to learn the cause of the disturbance, when the hum was again resumed. This I tried carefully and am positive as to the result. I also tried the experiment W. W. Lynch suggested, but am not satisfied with the result.

All experiments and observations that give the bees an opportunity of coming in contact with each other cannot be satisfactory evidence that they can hear. My experiments were made to avoid this.

J. D. KRUSCHKE.

Beeton, Ont., Aug. 8, 1876.

For the American Bee Journal.

Answer to Mr. McNeil.

In the August number of the AMERICAN BEE JOURNAL, Mr. J. W. McNeil says that he thinks that some of his queens are not pure, because some of their workers in a few hives are black behind the yellow rings, their abdomen being deprived of hairs, while in some other hives all the bees seem to be young. Mr. McNeil wants from me and others some explanations on this fact.

As far as my knowledge of the purity of the bees goes, I cannot think these bees impure, especially if they are quiet on the combs when the frames are out of the hives and if the workers show more or less distinctly the three yellow rings. If some workers in a few hives have their abdomen shining black I am inclined to think that it is because these workers are accustomed to rob other hives. I have at several times remarked that robbers are soon deprived of hairs, either because the hairs have been glued by honey or pulled by the bees of the robbed colonies. Everybody knows that some colonies are more inclined to rob than others. Of course some bees in these robbing colonies will look older than in those which have not such robbing propensities. We have had such in our home apiary. I could more exactly say we have every year some colonies which have accustomed to look on the spoils of others as a means of becoming rich.

A few years ago we had a hive, it was number 18, which was a confirmed robber; as soon as some mischief was done, it was by the bees of this colony, and of no other. One of our neighbors came one afternoon saying that our Italians were robbing one of his black hives. It was late in the season, all our colonies seemed quiet. I pointed to him the hive No. 18. "If your bees are robbed by ours it is by this hive." Indeed, this colony was as busy as in a day of full harvest. I closed the entrance and sent my son to stop the robbing. He found that there was neither brood nor queen in the robbed hive and only a few hundred black workers left. He saved the honey, but to convince our neighbor that our Italians had not killed his black bees was not easy; yet as there were no dead bees in the hive and only very few in front of the hive, my son succeeded at last in proving that our bees had robbed the hive when there were not enough bees to defend their stores.

This colony with robbing propensities was always very strong, but it was an annoyance for us and we had to be very careful in order to break up its robbing habits, and we worked to this end for many months; its young bees being taught by the old bees how to rob, it was necessary to have an entire generation passed to obtain this desirable result. So after having given them very little opportunity of finding sweets outside of the nectariums of flowers their robbing propensities disappeared entirely during the honey season of the ensuing year. We have always since remarked that if robbing takes place it is always done by the same colonies. To find these colonies is easy when the robbing is prolonged till night; the robbing colonies working when all the others are quiet.

To my mind it is probable that the colonies where some of these bald bees exist are accustomed to rob. Can some other bee-keeper give any other and better explanation?

CH. DADANT.

An Essay on Bees.

READ BEFORE THE GRANGE, WATERTOWN, N. Y., JAN. 28, 1876.

The honey bee from time immemorial has attracted the attention and care of civilized mankind. The scriptural allusions to them are in connection with the highest kind of living. The expressions, "with honey out of the rock, will I satisfy you?" and, "butter and honey shalt thou eat, thou that sin not;" with many others give an idea of the value the ancients set upon it as an article of food. And when the psalmist says, "eat thou honey for it is good," the most of us will, I think, quite readily agree with him. No farmer's home seems to me complete,

without a few hives of bees. The pleasure of seeing them toil, and in caring for them, (to say nothing of their influence) is with many people far greater than in the care and observation of the habits of any of the animals that are attached to the farmer's house. Yet the knowledge concerning the bee, and its care, is far less general than it should be. A family of bees consists of the queen, who is capable of laying from 2,000 to 3,000 eggs per day, many times her bulk; the workers which are neither male nor female; and the drones, which are male bees. When the family becomes too large the workers take a common worker egg and place it in a queen cell, or enlarge three worker cells into one, and when the egg is developed into a grub, they feed it a different kind of food, and the result is a queen. What that food is I believe is not known. When there is more than one queen, which an experienced ear can detect by the piping sound they give, the bees do not appear to do much else than keep the queens apart, as they will destroy one another, and if there chances to come two or three rainy days in succession, they will destroy one; and when the weather becomes fair raise another.

The old queen goes with the first swarm of the season, and lives a number of years, as I know from one that I had which was disabled. The workers during the busy season do not live on an average of over two months, as once I tested by taking a queen from a black swarm, that had been hived ten days, and introducing an Itatian queen. In ten days the young Italians began to show themselves, and in four weeks there was not a black bee left. Their method of calling each other, with the power to lead where they can get honey, or have found a new home, with many other interesting things, must be omitted for want of time. I have never failed to secure a fair crop of surplus honey, by following these simple rules: The hive should contain about 1,800 square inches; if larger, saw through comb and all, some cold day, to make smaller.

If the swarms are strong raise them from the stool in winter not less than a half inch on the side, least exposed to the wind, as it will prevent their freezing to death. The cause of their freezing is, their breath condensing, making the poor things look as if they had come out of water, which is really the truth. Plenty of air will always prevent it. Weak swarms, or those with little honey, should be turned upside down in a cellar. Never use an old hive for a new swarm, without first taking off the top board and planing it; also the inside. If a swarm has not enough of honey to winter through with, feed with good sugar, of which take two pails to one of boiling water; when cool put some empty comb on the top of the hive, covering it with a top box, after putting the liquid on, and opening a hole for the bees to get to it. If bees rob, close the aperture of the hive being robbed, so as to admit of but one bee at a time. The boxes for surplus honey, should be made with four sides of glass; being very easily made, and makes a neat package. Put in the boxes pieces of comb about two inches square; the bees will then have something to start from, and you will have as many combs as you put pieces. Put on the boxes in the spring as soon as they begin to carry honey, if you would secure much from the old swarms, and on the new swarms about three days after they are hived. Boxes that have been on a hive once must be taken apart and thoroughly cleaned before using, or they will not work in them.* The comb is secured to the boxes by melting a little beeswax and dipping the comb in it. To remove surplus boxes I have found nothing so good as two pieces of heavy sheet iron, 3 in. wide and 7 in. long; ½ in. of one end turned at right angles with the left; run both under the box, leave one on the hive the other draw off with the box; and not a bee can escape from either. Plug the holes with twisted grass, as it is next to impossible to get anything else out after they have waxed it over.†

Put the box with honey and bees in a dark place letting in just a little light which will enable them to find their way out, and not back which they will try to do. Do not examine them often when they are storing honey, or they will stop. The box covering the honey boxes should be well made, and fitting the hive tight enough to exclude light; but be sure to have them well shaded in hot weather, or you will fail to get much else but swarms, of which there will be plenty. There should be at least two thicknesses of boards over the surplus boxes. In the treatment of them most people have to be protected, so that they can harm and handle them without nervousness and fear, which always makes them worse, or let them severely alone; like many sinful sweets they carry a sting behind; and most of us, as our worthy secretary remarked last week, "have a world of respect for a bee's business end," which end he referred to, I do not know; perhaps both, as both are busy ends occasionally. With a yard and a half of mosquito netting thrown over the head, and the sides buttoned under a thin coat,‡ and a pair of harvest gloves on, they will not attempt any business transactions with you, for they know they cannot. MARVIN SNELL.

[*Unless some filth has accumulated in the boxes, we doubt the necessity of cleaning them, and if the bees have before used them, some bits of comb being left in, they will be used more readily than new boxes.

†The holes may easily be closed by laying a block or bit of board on them.

‡On a hot day we should rather be excused from being buttoned up in even a thin coat. All the protection needed is a light veil ready to be pulled down whenever the bees show anger, or for a timid person it may be kept down all the time. Gloves are much in the way, and bees will very rarely sting the hands, even when angry enough to sting the face.—ED.]

For the American Bee Journal.

Reply to Friend Roop.

There you go, friend Hiram, off the handle again. It was after I thought it strange that you should contract for 10c. (and I am informed you paid the freight clear to Cincinnati and threw in the packages) that I concluded to look the thing fair in the face,

and take 10c. per lb. for my extracted crop, right through, (not 21 barrels of the choicest) nett cash at my door. I did not know there was any asylum at Kalamazoo. Probably, because I never had any friends or relations in it. If your extracted honey only costs you 1c. per lb. and you get 10c. for it, you have a business and a conscience that will make a rich man of you. How do you know how much comb honey I can produce? If I should race it with you another season, how in the name of creation am I to know how much nectar you sling out? It may be you can beat yourself 10 to 1, but before you get too uneasy about a few barrels of nectar, try your hand at the yields of comb honey in fancy little boxes, realized by Doolittle, Hetherington and others. I can get far more than half as much comb as of extracted honey, with much less labor, and then get nearly three times the price per pound for it.

Now, if you don't stop such kind of talk, we will get up a surprise party and come up and see you, and perhaps locate in your vicinity, near the "swamps of Michigan," where the extracted honey slashes down by bucketsful. Hiram, toot your horn some more. JAMES HEDDON.

Dowagiac, Mich., July 31, 1876.

For the American Bee Journal.

Bees Making their Homes in Houses.

I did not know till recently that this was of frequent occurence in this part of the world. But my well known interest in bees makes people tell me now everything relating to them which they think in any way strange or interesting.

A stock of bees have been living in the Woodville bank for 7 or 8 years. I do not know anything of the position they occupy, but they must have had sufficient room as they have never been known to swarm till last year. The people who had charge of them took the honey from the swarm so late in the season that they did not have time to replace it, and starved in consequence. I think more bees are lost from this cause than from any other.

I visited a friend last week in whose house there is a fine colony of bees which have built their combs under the second story floor, between it and the ceiling underneath. They enter through a crack under the eaves of the house. They have been there 8 or 9 years. Last year the lady came to see me and told me about them, and I advised her to take up the floor and get some of the honey—insisting though on its being done early in the season so that the bees would have time to gather more. When I was there the other day she told me that she had taken from them 5 gallons, or more, of nice honey. She did not invade the brood nest and did not see a cell occupied with egg brood or pollen, or any empty comb but all filled with capped honey. She is quite delighted with her little storeroom, but intends trying to get a swarm from it next spring by setting a hive above with a hole bored in it and a corresponding one in the floor immediately beneath it. I advised her to insert some of their own unsealed brood with adhering bees in the proposed hive and promised her an Italian queen for the new stock.

I have a friend near Bayou Sara, La., who has a stock of bees between the walls of an out-house in her yard, which have been there three years, and have supplied the family with some honey each year, though they are not so comfortably situated as the bees mentioned above. The outer boards are thin and there are some cracks so large that you can look through them and see the bees and their stores. The combs are parallel with the boards, so there is only room for two or three, and the poor bees must feel some of our sudden changes of temperature very keenly. These bees are in charge of a very intelligent and interesting little boy. I was there a while since and he was delighted at the prospect of a bee chat, but commenced thinking the grown folks would not give him a chance for it after all, so after a while I proposed to him that we should just have mama and sisters go to the bees and he could ask as many questions as he pleased. He had another stock which he had managed very well. It was in a box hive, but he shaded and fed it and cleaned out the moths as well as he could.

I have still another friend—all of these ladies are widows—who is living in a house that must contain many swarms. They are located in the walls and in the spans above some dormer windows. They supply her with more than enough honey for her table.

A gentleman of my acquaintance has a widowed aunt, in whose house some bees have made themselves a home in a dormer window for many years. The window is kept closed and they have a nice roomy house. She suspends frames and gets them filled. What a pity Novice's house apiary proved a failure! Such a contrivance would put an effectual stop to the stealing of honey from the hives—a desideratum devoutly to be wished here.

Many years ago a colony of bees took up their quarters on the outside of a large tree near Vidalia, opposite Natchez. The manager of the place would never allow them to be disturbed, and they remained there for a number of years. In parts of Texas where trees are scarce I am told bees often locate in the grass, on bushes, or on the outside of their hives when full and can find no better places, and they manage to live and often prosper in these unpromising homes.

In spite of our sweet, bright flowers the year round, I fancy if they could choose, our little pets would take a little of your winter to get away from some of our summer. I think, perhaps, much of their short lives is worn away in trying to keep cool, so I do as much as I can to help mine in this endeavor—shade as much as possible and sprinkle when very hot and the water can be had. Last summer I had an opportunity of learning how much heat one little bee can fan away. I had an immature drone on my finger, which I had just killed, a worker lit on it and commenced fanning, perhaps she hoped to restore it; her wings moved so rapidly that I could not see them, and if my finger had been dipped in ether it would not have felt colder. Twice I have chanced to have bees open when a storm suddenly came up. The behavior of the little creatures was strange, beyond description. They were buzzing as usual when they noticed it and instantly they became as still as death. Nothing could have displayed terror more plainly than their demeanor.

Woodville, Miss. ANNA SAUNDERS.

Old Silas Hiving Bees.

WHAT HE EXPECTED, AND WHAT HE DIDN'T.

The old gentleman's name is Silas, and that of his eldest son is George; his wife's name is Matilda, and his three pretty daughters are named Helen, Alice and Susie; there is a little Silas, too, and an other boy whose name is too queer to mention.

The bees had alighted in a great bunch, as large as a half-bushel measure, on the limb of a peach tree in the yard. A table is placed under the overhanging limb, spread with a clean white cloth, and the hive placed thereon.

Then one of the boys, one that is good for nothing else, is sent into the tree to sever the limb; the limb comes down slowly and easily, and the old gent below, dressed in a great coat, buckskin gloves, cowhide boots, and a bed quilt tied around his neck and face, slyly manipulates a twig from the tree, and in two minutes has safely coaxed every bee into the hive, during all of which time Matilda and Helen and Alice and Susie pound the bottoms out of just four tin pans; little Silas does his prettiest yelling, while the boy with the queer name is just old enough to slip behind the house and wait for the thing to come to a point. That is the way the thing ought to have gone off; but that isn't the way it did. Silas, the elder, was very comfortably bundled up for so warm a day, and he had his suit well arranged, only he forgot to tie the strings around the bottom of his pants.

The bees had settled on the limb of a peach tree, and Silas, when his table and white cloth and his hive was all ready, commanded:

"Now, George, grab that old rusty saw and climb; I guess you can cut that small limb off easy enough."

George was just home from a six month's term of school, and he felt a great tenderness for his father, and would have gone through a patch of thistles bare foot to please the old gent, and yet he had a particular dread for the "business end" of a bee, and particularly of such a crowd of them. But he obeyed, and began to fiddle away cautiously upon the particular limb. One little bunch of bees dropped off and were caged; another, and another small bunch dropped, and the prospect seemed good, when suddenly an old honey-maker appeared, who had been in the business, and soared upward. George shut up one eye quick, gave one terrific surge on the old rusty saw, got out of that tree at one jump and his anxious mother caught a glimpse of him as he flew round the corner of the barn twenty rods away.

But poor old Silas! The bees came down and he thought the bunch was as big as a hay-stack now. They did not go into the hive, but they went through his overcoat and bed-quilt as if these had been only mosquito bars, and they climbed up his pants legs, and the old gent danced as he had never danced before; and he slapped his legs, as he had never allowed any one else to slap them, and his voice towered high above the clatter of the tin pans and the shrieks of little Silas as he yelled:

"Throw water on me! throw water on me! soak me, wet me down!"

He rolled three or four times over in the grass, and sprang up, shouting, "slap me! slap me! can't you slap me?" in the midst of which little Silas crept up behind his infuriated papa and dealt him a lively one with a shingle; but poor little Silas landed the next second against the milk-house, for his pa took him and his shingle for a thousand bees, and gently brushed them off.

Oh, the agony of that three minutes jig! He appealed to his wife.

"Matilda, for heaven sake, bring me another pair of pants, won't you!"

But these things don't last always, any more than any other happiness, and after a few minutes the old gent came limping out of the cellar with the pants on that Matilda brought him, feeling much easier, but certainly much fatigued, just as George got back from the barn and the boy with the queer name slipped around the corner of the house. Both boys were anxious to know how matters stood, and asked:

"Did you get 'em hived, pa?"

But the old man was too mad to answer, or even look at his boys. He turned to Silas and said:

"Little one: you meant all right, and I'm sorry I cuffed you so; next time don't slap so hard."

Then to his wife, "Matilda, to you I owe everything. Accept my heartfelt gratitude. We'll take no more stock in bees. I have made up my mind, and its settled. May our quiet, peaceful farm home never be so stirred up again. Seems to me I never had so much of life crowded into a few short minutes before. Run after the cows now, boys; be off, for its almost dark."

OBSERVER.

For the American Bee Journal.

Comb Foundation.

We have given the comb foundation a pretty thorough trial, and I must say it pleases us highly. Have 4 lbs. of it in our hives now, and it makes just as pretty, stright worker as ever gladdened the eyes of a bee-keeper. At first we put in too much of it, filled the frame too full, and the weight of the bees sagged it so that it would roll up an inch or more on the bottom bar, and the cells towards the top were all twice as long as wide. That was in the strongest stocks, but in the lighter ones and less bees they built it out straight as a board. The only fault we find with it is there isn't enough of it. We want more but can hardly spare "ye stamps." I think we shall want a good many pounds another season.

Last year I got ten four-frame nuclei with dollar queens from J. Oatman & Co., Dundee, Ill. They built up into ten good strong stocks; wintered tip top, two lost their queens in the spring. Two of them have now increased to three swarms each, two others into two swarms each, and the rest have helped hugely by brood and bees to build up new stocks. Have just got another dollar queen from the same gentlemen, and I must say without any exception, they are the quitest, prettiest bees I ever handled, and every queen a pure one. I raise all my queens from my "Dundee No. 4;" $25 would not buy her.

WM. M. KELLOGG.

Oneida, Ill, July 25, 1876.

Los Angeles B. K. Meeting.

The Bee-Keepers' Association met at the ranch of Mr. A. J. Davidson on July 15.

President Bruck called the meeting to order.

The minutes of the last meeting were read and approved.

Mr. Davidson read a report from the committee on sale of honey. Also a letter from J. S. Harbison in regard to the same matter in San Diego. He stated that he had letters from the principal bee-keepers in San Bernardino and Ventura counties, who expressed themselves willing to co-operate with us.

REPORT OF SPECIAL COMMITTEE.

DAVIDSON'S APIARY, July 15, 1876.

Mr. President, and Members of Los Angeles B. K. Association.

LADIES AND GENTLEMEN:—In pursuance of a motion passed by our honorable body, appointing a committee to confer with bee-keepers in this and adjoining counties, for the purpose of securing a fair price for our products, we report the following:

We have received favorable answers to letters written to some of the principal producers of honey in San Bernardino and Ventura counties, in which they promise co-operation, as individuals, and would try to effect an associated action. All, as far as heard from, including representative men in this and San Diego counties, realize the justice and importance of our movement, as it will protect not only the producing class, but also the dealers in honey. We are advised by San Francisco dealers, that producers are very much to blame in our present demoralized market in that city, by ordering forced sales while it is out of season for its sale; and also by sending to parties who, by inexperience, are not informed as to this fact, and have consequently sacrificed their consignments. Our local home markets have been effected in a similar way to that of San Francisco, and all of these will act and react so that our Eastern markets will be affected in like manner, according to the well-known laws of trade.

We are also in possession of facts which show clearly that the crop of this season is not large, and if properly offered for market and in the right season, there will not be enough to supply the markets that should depend upon us for this useful article of food. These, with many other reasons that could be adduced, lead us to advise patient adherence to plans that accord with the spirit of the resolution which called into existence this committee.

L. S. BUTLER, Com.

It was moved and adopted that the committee ascertain the charge for a store room in Los Angeles, find a competent person to take charge of and grade honey, and ascertain what his remuneration will be for grading and for selling and shipping honey from this store room.

It was moved and adopted that a competent person be appointed to proceed to San Francisco to urge upon the honey dealers the necessity of co-operating together, of holding the honey until the demand is such that a fair price can be obtained, and to induce them to make advances to producers who may be in need thereof, without sacrificing the honey at a low, non-paying figure.

Mr. A. J. Davidson was appointed agent, and agreed to start as soon as he received $25 to defray his traveling expenses.

It was resolved that a collection be taken of voluntary contributions for this purpose.

Mrs. B. Richardson invited the Association to meet at her place on the first Saturday in September. The invitation was accepted.

The Association tendered thanks to Mr. Davidson for his hospitality.

Four new members joined the Association.

The meeting then adjourned to meet at Leck's hall on the third Saturday in August.

W. MUTH-RASMUSSEN,
Secretary.

For the American Bee Journal.

Introducing Queens.

The killing of queens by introducing is a curse as heavy to the buyer of queens as to the seller. For this killing can happen without the control of the bee-keeper, and, of course, he accuses the sender of having furnished him with a black or hybrid queen instead of the imported or tested one paid for.

I see in the AMERICAN BEE JOURNAL for July the directions given by Nellis Bros. for introducing queens, and want to make a few remarks on this question.

The method proposed by Mr. Nellis will do if the queen to be introduced is on hand. But suppose she is ordered from a bee-breeder, and that from some cause or other she does not come when expected; or that she arrives dead. Then this method is at fault. Therefore it cannot be relied on in every case. Especially this removing of the queen, 7 or 9 days beforehand can not do for us importers. Each invoice of bees from Italy remain from 22 to 31 days *en route*. We cannot tell in advance the precise time of the arrival, and take out the queens in advance; besides, some invoices contain a good many live queens, while others very few. The second and third invoices that we received from Italy this season had only six queens alive out of 44; the fourth and fifth had 43 out of 44. So it would have been an impossibility to have taken out the queens to be replaced by the imported ones, before knowing the number of queens alive, and the imported queens are tired when they arrive, so tired that a delay of a day, sometimes of a few hours, causes the death of one or two queens.

But this is not all. By the method of Mr. Nellis you have to cut all the queen cells which have been made during the 7 or 9 days of the queenlessness of the colony. In very strong colonies to find every queen cell is very difficult. If you miss one your queen will be killed. I know of several bee-keepers who have had their queen superseded in that way. While others were not aware of the fact and accused their senders of having sent a hybrid queen instead of a pure or tested queen, when the change had happened in their own apiary without their knowledge of the fact.

Is it not more expedient and more safe not to remove the queen to be replaced, before the queen to be introduced is on hand, and to put in the hive the queen caged for 36 or 48 hours, taking care not to disturb the bees and not to let any robber introduce itself in the hive when you liberate her?

Out of 54 imported queens introduced this spring in our apiary by this method, we have lost but one, who was sick and died a few days after her introduction. The only bad chance that we have encountered with this way of introducing, as is related in the

AMERICAN BEE JOURNAL for March, 1876, page 69, is that it sometimes happens that there are two queens in the hive; the one remaining caused the death of our queen. We have had in our apiary and at one of our neighbors a few similar instances, but they are of rare occurrence.

CH. DADANT.

Parasites on Bees.

The *Rural World* reports that at the last meeting of the St. Louis Academy of Sciences, Prof. C. V. Riley, the President, read a communication from G. W. Barnes, of San Diego, Cal., in relation to parasites found upon bees in that State. The parasite was described as the color of a flax seed and easily distinguished by the naked eye. It appears usually under the wing of the bee, and adheres with considerable tenacity. It occasionally crawls all over the bee, and is quite agile in its movements. The bees afflicted with the vermin become agitated and move rapidly over the comb, frequently dying of injuries. The parasites were first noticed there last year, and have again appeared this season, giving considerable trouble in large apiaries. Specimens of the insects afflicted accompanied the letter, and Prof. Riley said the parasite was the larva of the blister beetle. It was well known that these larvæ attach themselves to bees and were thus carried into the hive, where they usually left the grown bee and attacked the larvæ. Prof. Riley had not before heard that these insects injured the fully developed bees. The information was valuable, if reliable.—*Rural New Yorker.*

From the Los Angeles Herald.

The Successful Apiarist.

We often hear of men who, by their labor, courage and coolness, have distinguished themselves in battle, and thereby won the plaudits of their countrymen. Their efforts in life are pronounced a decided success. The agricultural press gives, from time to time, accounts of farmers who, commencing in life with little or no capital, have by economy, perseverence and industry secured for themselves and their posterity broad, fertile acres and beautiful homes. They, too, have been successful. And that there are those who have been eminently successful in our favorite pursuit of bee-culture is well attested by accounts previously published in our journals. The successful bee-keeper, who is he, and what are the rules he adopts as a guidance for his actions? These are the questions we wish to consider, and in so doing we shall submit general principles only. In the first place, he is a person of energy, perseverance and intelligence. He obtains all the information he can in regard to his pursuit, by reading the experience of others and comparing it with his own. He accepts nothing as a fact until it has been demonstraed by experiment to be such, and in giving others advice he relates only what he *knows* to be reliable. He knows at all times the exact condition of his bees, and does not leave them to take care of themselves. They receive all needful care and attention, at the *proper* time. His hives are of a uniform size, and, of course, contain the movable frames. His bees are not allowed to overswarm, and thus become a prey for the moth, but are strong in numbers at all times and seasons of the year. To secure this result, he uses the mel-extractor freely, keeping the brood combs clear of honey in the working season. He rears his queens from his best and purest stock of Italians, mating them with drones reared from good honey-producing stocks, being careful to avoid "in and in" breeding. His hives, if wintered out of doors, are protected from cold and dampness. And finally, he is an enthusiastic lover of his little pets, and studies their nature and habits with commendable zeal. Many there are who are about to engage in bee-culture for the sole purpose of making money thereby. And this they expect to do with but little expenditure of time, labor and capital. Let all such persons remember that those who succeed in any busines, are the ones that engage in it from a love of the pursuit, and are willing to devote their best energies to it, with a determination to master every difficulty, and excel in every undertaking. HERBERT A. BURCH.

From the American Agriculturist for Aug

Bee Notes.

As the honey yield draws to a close, which, in most sections, will be during this month, care must be taken to avoid too many partly filled boxes. Beginners are apt to continue to supply the place of full boxes with empty ones too late in the season. Instead of this, the number of boxes should be diminished, and in some cases those colonies which work in boxes most rapidly, should finish such as are partly filled by those that work less freely. Box honey that has been removed from the hives, and packed away as directed in the July notes, should be examined occasionally, and if the moth-worm is found in any, they should be either removed, or the boxes placed in a tight box, and fumigated with brimstone. Such boxes should be placed by themselves for home use, and when honey is taken from them for the table, all places disturbed by the worms can be cut away. A correspondent asks how the worms could get into his boxes, as he sealed them up tight when taken from the hive. The eggs were deposited in the boxes while on the hive, and sealing up closely aids the progress of the worm, by retaining the heat. Worms are seldom found in boxes, except such as contain bee bread.

In most sections swarms will not issue later than this month. Each swarm should be examined to ascertain if it has a laying queen. Young queens are liable to be lost, when sometimes a swarm has no means of rearing another, and unless another queen is supplied, or brood from which to rear one is given, the colony will soon be worthless.

On page 254, of the July No., under the head of "Among the Farmers," your correspondent asks a plain, practical question, and justly heads his remarks, "Wasted Sweets."—"Why is it that we have no more bees?" is a question that claims the attention of every farmer. In attempting to give some of the reasons why so few bees are kept by farmers, I shall differ somewhat with your correspondent. If all who have attempted bee-keeping had been success-

ful, the number of colonies throughout the country would be far greater than at present. The real answer to the question is, that the advance that has been made in bee-culture during the past few years, is not generally understood. The foremost reason that would be given by the inexperienced, would no doubt be *the fear of stings*. Were the present facilities for subduing bees, and the ease of ample protection properly understood, the fear of stings would become one of the least hindrances to bee-culture. Again, many farmers, as well as others, would keep a few swarms, if it were not for the idea that they must be watched during swarming time, and thus interfere with their general business. This belongs with many other absurdities of old time bee-keeping. Your correspondent speaks of the ease of preventing loss of swarms. If he means glass during winter and spring, I think he is in error. This is the knotty point of bee-keeping. Not that the loss may not be prevented in a great degree, but he should have said, with *earnest care and attention*. He suggests that it is not safe to move bees less than three miles. Many can testify to having moved them one mile, and even less, with entire satisfaction.

I am aware that in urging all to investigate the interests of bee-keeping, I expose myself to criticism. We are told by those interested in the production of honey, that in so doing we are working against our own interest. I can hardly believe their view correct, and if it were, we should hardly be justified in remaining silent, while, as your correspondent truly says, "forage for bees abounds, and acres of honey are hardly sipped." Let me urge then that the readers of these notes procure some standard work on bee-culture, and learn for themselves what, as the late M. Quinby expressed it, "they are losing, not for the asking, but for the taking." Besides it is an interesting pursuit, so much so, that if those who study it never keep a bee, it will be time well spent to learn their natural history.

Let me not be understood as conveying the idea that it is a business in which any one can be successful without persevering study and effort, and if one engages in it extensively, he will find plenty of hard work. Bee-keeping as an exclusive business, and the care of a few as amusement or for home supply, involve altogether different methods of handling and practice. While few are adapted to pursue bee-keeping on a large scale, almost any one can succeed with a few colonies.

Mohawk, N. Y. L. C. ROOT.

Honey Cakes.

Mix a quart of extracted honey with half a pound of powdered white sugar, half a pound of fresh butter and the juice of two oranges or lemons. Warm these ingredients slightly, just enough to soften the butter, and then stir the mixture very hard, adding a grated nutmeg. Mix in gradually two pounds or less of sifted flour, make it into a dough just stiff enough to roll out easy, and beat it well all over with a rolling pin; then roll it out into a large sheet half an inch thick, cut it into round cakes with the top of a tumbler dipped frequently in flour, lay them in shallow tin pans slightly buttered, and bake them.

Ligurian Bees.

I have been greatly interested in what has been said for and against Ligurian bees, and the conclusion that I have come to is that—First, there must be a profit in keeping Ligurians for sale, to sell in swarms, or to sell queens for ligurianising other swarms; Second, that they are no better honey-producers than the common bees; and, Third, that therefore, to those whose aim is profit by means of honey, it is a loss to invest in Ligurian bees. These conclusions have been arrived at in various ways. So many of the evidences in favor of Ligurians came from parties who had them to sell, that I could not think their evidence was of a disinterested kind. Then I was greatly astonished that last year no one accepted the competition proposed by Mr. Pettigrew, who advocated the British bee; and, again, your correspondent "B. & W.," who otherwise appears favorable to the Ligurian makes this important statement: "I must acknowledge that I am far from satisfied that the common English bee is not in every way as profitable as the Italian bees. I have now had them for many years." Mr. Pettigrew has the warmest thanks of many. He has fought unflinchingly on behalf of the English bee, and thereby deterred those whose aim was profit from incurring needless outlay in buying bees which, after all that has been said in their favor, have so little proof of their superiority as swarmers or honey gatherers.—*London Cottage Gardener.*

[Is it possible that the different bee-keepers of England are all agreed on the equal value of the common black bee with the Italian, except those who have Italian bees or queens to sell? We would like to ask the *British Bee Journal* what proportion of those who keep bees for the profit of the honey prefer the black bee? Brother Abbott, please tell.—ED.]

From the Los Angeles Herald.

A Nut for Bee-Keepers to Crack.

It is, we believe, generally conceded by all, or nearly all, of the leading apiculturists that the fertilization of queens in confinement is numbered among the impossibilities, or, at least, has proved a failure so far. We are not among the doubting; we believe it can be done and has been done. Now for the facts. While examining a colony of bees in the Los Angeles Apiary one month or six weeks since, we noticed a young Italian queen that had just emerged from her royal birth place with only one wing and a small stub of the other. We at once called the attention of the proprietors of the apiary to the fact, who, after a brief consultation, decided to supplant her at once with a fertile one, as she would never be able to fly, and consequently would never become fertile. We urged them to let her remain a few days and see the result, to which they consented. In about one week we examined and found she was yet unfertile. It was then decided to let her remain still longer. In eight or ten days after she was again examined with

like result. It was then determined by one of the proprietors, who was present, to at once dispatch her. As she was a fine looking queen we interceded in her behalf, when she was turned over to us. We at once placed her in an ordinary sized queen cage, with a single Italian drone, and placed the cage on the top of the frames in a queenless hive. Next morning, on examining the cage, we found the drone dead. We then liberated the queen, and in about four days she commenced laying, and is now a prolific queen, raising brood abundantly. Now, the query is, did she become fertile in the cage or in the hive?—for she cannot fly. The proof is clear to us that it took place in the cage, or in the hive, and if so there is no doubt in our mind but what fertilization can be accomplished in confinement. N. LEVERING.

Our Letter Box.

La Salle Co., Ill,, Aug. 4, 1875.—"My bees are now at work on catnip."

H. L. BRUSH.

Bonham, Texas, July 25, 1876.—"Bees in Northern Texas have done very poorly this season. Too much rain."

L. M. LINDLEY.

Grant Co., Wis., Aug. 4, 1876.—"The honey crop has been very poor here for white honey. There is a great amount of white clover, but it seems to yield no honey, and the basswood blossoms were an entire failure. Fall flowers and buckwheat are in full bloom here now, and promise a fair crop of honey." B. KRONSHAGE.

Henry Co., Iowa, July 24, 1876.—"Bees are doing well. Some have made as much as 100 lbs. of box and small frame honey to the stand, but strange to say that nine-tenths of them swarmed without starting queen cells. I think we had the Centennial swarm, as we had six of them come out at one time and all go together, one of them had an imported queen. We have had 42 natural swarms and saved all except one—it took Horace Greely's advice and went west." JOHN A. THOMAS.

Lucas Co., Ohio.—"On the Bay, July 24, 1876, I saw a king bird catch several bees. I shot him at 5 p. m., and send you with this the contents of his craw. On the 26th I shot another, send you also the contents of his craw. If they come to you as I put them in this letter, you will find two worker bees and two drones. They appear to have been swollowed whole. The bird is very destructive on bees. I have killed twelve this season; two of them were catching bees on the flowers at least 80 rods from any hive, on what some call the tony burr—the best honey plant from the last week of May to the middle of June that grows about here. NORTON CASE.

[There might be some doubt about the first named mass being the remains of bees, but in the second case we think there can be no question about there being four bees among the mangled parts.—ED.]

Jefferson, Wis., July 31, 1876.—"Bees are doing poorly here. They will scarcely gather enough to winter on, if August does not make any better results. Buckwheat may do something; though there is but little raised here. I fear I shall not get an ounce of surplus. I enclose a bee that the bees have thrown out of the hive this evening. Its feet are very peculiar. What is the matter with it? WM. WOLFF.

[The feet have attached to them little yellow particles that have sometimes been mistaken for insects. These attachments have been got from the milk weed on which the bee has been working, and when its feet are so clogged that it can no longer climb in the hive, it is driven out. But few bees are ever lost by it.—ED.]

Knox Co., Ill., July 27, 1876.—"Bees have done well here all summer until last week, and even now the strong stocks are putting in some surplus. I had 9 stocks in spring and now have 23, besides selling two, and have taken 300 lbs. of extracted honey. The comb foundation warrants all you said in regard to it. I have a lot of it now with capped honey for about 3 inches at top and the balance is capped brood, and straight as a board, but you should give some directions far putting it in. A frame must not be filled with it, but leave about one inch at each side and use it only 6 or 8 inches deep, as it seems to draw down by weight of bees and also spreads laterally. We cannot say too much in its praise and I think it worth to bee-keepers $3 or $4 per lb., rather than let bees build all new. I had some of the foundation with brood in (that is, eggs) 24 to 48 hours after inserting it. I shall have to send you another order soon, as I shall need some more yet." I. W. CRAMER.

Coshocton Co., Ohio., July 26, 1876.—I owned bees ever since I was a little boy (I am now 54), all I knew about them was to brimstone them. I learned that from my father. I have two stands yet, one pretty good and one very weak. I was doing nothing for them and they were doing nothing for me. They did not swarm this last two years. Last fall an agent called with R. P. Starbuck's Union Bee Hive. He wanted me to buy one. I refused and told him it was a humbug. He went away and finally came around again and staid with me all night. Persuaded me next morning to buy one. That was Jan. 18, 1876. Transferred the best of the two and told me a little how to manage them. In two weeks the agent came again with the patentee. They transferred the other colony and told me how to feed and manage them. Mr. Starbuck advised me to send for THE AMERICAN BEE JOURNAL. That was the first I ever heard of it, so I got him to send for the JOURNAL. Mr. Starbuck told me how to make an artificial swarm. But I could not do it if it were not for the JOURNAL. But the JOURhelped me and I got it done first rate. On the 8th of July I undertook to make an artifical swarm. I never saw one made, but I had a piece of the JOURNAL in my head and got it done right, so I tried the second hive and to my great surprise each one cast a swarm—the first one in 12 days, the other one in 13 days. Good swarms they are and doing well. I am a thousand times thank-

ful for the JOURNAL and Starbuck's Union bee hive."

While I am a greenhorn in bee-culture I must ask a few questions: Do you know anything about Mr. Starbuck, or of his hives? I got the JOURNAL for six months now and not a word of Starbuck's.

Please let me know how Langstroth's hive is made, and how the separate boxes are made and placed?

When is the time and how soon can I shut the drones out? My hive is so constructed that I can shut them out at will.

Which do you suppose is the best hive in use? There is the Quinby, Langstroth, Standard, American, Gallup, closed-end Quinby; mine is the Union bee hive.

Do you believe at all in shutting off the drones? I can't get my bees to work in the separate boxes. What is the cause?

THOS. SHENEMAN.

[When an artificial colony is made and allowed to raise a queen, if it is so made as to be very strong, it will often cast a swarm within 12 to 14 days, precisely as a colony which has swarmed naturally will throw off a second swarm.

We know nothing about Mr. Starbuck's hive.

As soon as your queens are all laying, there is no further need of drones, although drone traps are not generally valued.

There are different opinions about hives. Probably the Langstroth is the most popular. The principle is simply a box containing movable frames, the surplus boxes of any desired size being placed upon the frames.

Your bees probably do not work in the boxes because the body of the hive is not yet filled. They ought not to be asked to work sooner in the boxes.—ED.

Macomb Co., Mich., July 24, 1876.—"I started last year with 3 colonies, increased to 9, bought 12 this spring, have increased to 46 up to date. Sold last year from the 3 and their increase $118 worth of honey; have sold $47 worth this season, and have some $25 on hand and a good store in hives which I shall take out as soon as they commence on buckwheat. The season has not been good here this year, too wet, no honey in blossoms now, am in hopes of a good supply of fall honey, think we will get it but may not. Will not give up in despair if I do not. I had an honest picture drawn up by H. Livingston, of the uncertainties of the business, when he first encouraged me to commence. I know he had no object to advise me wrong, therefore I invested a little money and time for which I have no reason to complain as James Heddon does. If a beginner should listen to him he would not hold out long. I am sorry to hear one of our Michigan men complain so bitterly of a thing he can so easily quit. I do not think that I complained much worse or more during 15 months imprisonment in the Confederacy, and I was confined in five different prisons, among which I name Libby and Andersonville prisons. I wish Mr. H. would try and brace up and give us one consoling word during the next 18 months."

WM. P. EVERETT.

Platte Co., Mo., July 19, 1876.—"A few words from North-West Missouri may not be out of place. This is my second year in the bee business. I wintered 13 colonies last season and bought one this spring. Bees did poorly here early in spring; the weather was wet and cold. They got no benefit from fruit blossoms. When black locust came out they did well, raising brood. Since June 29, I have taken something over 1,100 lbs. of extracted honey, all from linn—basswood. I should have had, I think, a much larger yield had the weather been favorable. It rained nearly half of the time while basswood was in bloom. The honey was white and very nice. Have no trouble to sell extracted honey here. Sold in the little town of Platte City, 600 lbs. Expect to sell all my surplus here in this (Platte) county. Sell at 15 and 16 cents per lb. Have not learned Geo. H. Mobley's way of getting box honey yet, but don't have to wait until late in the season and then take dark honey. We take honey all the season through. Have increased my bees to 24 strong colonies and expect a good yield this fall, if the weather is favorable. All the knowledge I have of bees I got from your valuable AMERICAN BEE JOURNAL. I am making up a club for it that I will send in soon."

P. H. BOHART.

Wooster, Wayne Co., Ohio, July 24, 1876.—"MR. EDITOR: As you are aware of my illness for some time past, I take pleasure in informing you that I am improving. At present am able to oversee my bees somewhat. I think this is one of the best seasons I ever witnessed, I am very sorry that I was not able to attend my bees and see what profit there could be made from bees here. I had 22 hives last spring. Sold 3, leaving 19; having 25 at present. I have had them kept back, to make as little trouble as possible. Had a good many swarms but still had the most of them put back, having no hives to put them in. My bees are very strong. If I was well I could easily double them all yet. I suppose I will get about 400 lbs. of box honey this fall, while if I had been able to attend to them, as I wished, I could have had 50 colonies of bees and 1,000 lbs. of honey by this time. The like of white clover I never saw here before, and the honey is excellent. People think they never ate such honey before. I agree with our Illinois friend in regard to the king bird. I have killed a number of them and making a close examination there was nothing found in them belonging to a bee but the sting and sometimes the hind legs. It has long been my opinion that they do not eat bees, but suck out the honey; but, eat or not, they kill the bees, so my advice is kill every king bird that comes in your way. I presume that our readers think it strange that I have never made any reply or mentioned anything in regard to the statement concerning me in the May number of THE AMERICAN BEE JOURNAL. The statement referred to is all correct, but I have not heard from one bee-keeper yet, but am still in hopes. I have not been able to work more than four years out of the last ten. These fresh attacks were brought on by hard work, so I concluded to be a bee-keeper the rest of my days, and if I can keep my bees until I get well again I think I can live without hard work. My friends here will take good care of me while I am

ill, but my bees will go to loss for the want of care if I don't get some help, for I cannot do it, and have not the money to hire it done." D. H. OGDEN.

Dakota Co., Minn., July 17, 1876.—"Last fall (I think about the middle of Nov.) I carried 30 swarms of bees into the cellar under my house; or perhaps some would not call it a cellar as it is only a place dug out, with earth for walls. On a part of the hives I had a quilt or a piece of carpet, without cover, and a part with honey board, with some of the holes open, always with bottom holes open, and of course upward ventilation through quilts or honey boards. The cellar ranged in temperature from 36 to 54 or 55 degrees all winter. All came out strong. I let them out the 10th or 15th of April, and found no mouldy combs. The winter before, I wintered 17 swarms the same way and in the same place. All came out strong. I have never yet been able to winter bees in my cellar with the hive perfectly tight above, without mouldy combs or loss of bees. They did well here in the spring. The first thing they work on is the wild willow and then comes the white or gray willow, which furnishes a large amount of honey, but is of short duration—only about one week. During white willow I weighed three hives one day, the gain in weight was 1½, 2½, and 4 lbs. Fruit blossoms closely follow the white willow. Bees began to swarm the 1st of June, but it has been so exceedingly dry that they have gathered but little more honey from white clover (our main supply here) than they have used. They have gained some the last week from sumac, and are now busy at work on basswood. I sold one swarm of bees in the spring, and have increased from 29 to 49, and lost two swarms."

L. E. DAY.

Obin Co., Tenn., July 27, 1876.—"I send a branch of a plant found in this county, that the bees are very fond of. It grows to the height of about 6 feet, and branches abundantly; flowering for about six weeks. I suppose it to be valuable, but do not know a name for it. I intend to save all the seed I can." G. H. BYNUM.

This plant is the well known Melilot or Sweet Clover (*Melilotus Alba*). It is considered by bee-keepers as one of the best honey plants, yielding a very superior quality of honey. C. E. BESSEY.

Agr'l College, Ames, Iowa.

Nashville, Tenn., July 22, 1876.—"I had a colony of bees to swarm and when the time came to examine for the young queen I found only a few scattering eggs in the combs, and a few sealed brood. This brood was the progeny of their young queen. I also found a sealed queen cell. I then looked for the queen but could not find her. I then closed the hive and waited until I thought the queen cell was hatched. I then examined and found the queen hatched and the first hatched queen on the same comb, and eggs and unsealed and sealed brood as before. The first hatched queen looked sickly and moved slowly on the comb. I removed her, taking her in my hand, about 40 yards from the hive when she got away from me, flying up in the air. I did not think she would go back to the hive again but would be lost. I waited 9 days before I again examined, and found the same two queens in the hive and brood in the same stages as before. The last hatched queen had not become fertile. I removed the sickly queen—killed her. I then waited 10 days longer and examined and found plenty of brood and eggs regularly placed in the cells. It was not the old queen that was left in the hive for I secured her with the swarm. It was about 22 days after the colony swarmed before I examined for the young queen. I am sure that the second young queen was the progeny of the first hatched queen. Please give me your idea about this colony of bees." H. W. ROOP.

[The queen was a poor one; the bees knew it, and immediately set to work to provide a successor.

We had at one time a queen raised by a very weak nucleus which was a long time about commencing to lay. We watched very closely and at last found two or three eggs, from one of which the bees started a queen and superseded the old one. We should prefer a queen raised from a sound, healthy mother.—ED.]

FOR INTRODUCING QUEENS.—One drop of sulphuric acid to a cubic inch of water. Wet the queen with it, and then introduce. I have tried it six or eight times with success. T. W. LIVINGSTON.

Ainsworth, Iowa.

[We have introduced many queens with no precaution whatever when honey was yielding plentifully, and at such times almost anything would seem to be successful. Without further trial, we should hesitate to trust the acid in introducing a valuable queen to a colony just deprived of one at a time when forage was scarce. We shall be glad to hear of further trial at such a season.—ED.]

Hamilton Co., Ind., Aug. 10, 1876.—"I have been at Mr. Salisbury's on a visit. He has 300 colonies of as fine Italian bees as I ever saw. He demonstrates one thing which my own experience corroberates—that bees will pay. He has 6,000 lbs. of comb honey in a nice convenient shape for market, besides having sold a large lot of bees and queens. The proceeds of his apiary this year will be nearly $1,500. I commenced this spring with 27 colonies. Have made $550. This includes the increase, 17 colonies at $10 per colony. Have cleared over $300. I commenced bee-keeping in this country 15 years ago. I stuck closely to it even when every one else had quit and denounced it, and I made it a success." JOHN ROOKER.

Marshall Co., Kansas, Aug. 14, 1876.—"I have received the queen you sent me and am well pleased with her. I had good success in introducing. She is working finely. Kansas is good for bees. My hives are 28 inches in length, by 12 inches wide, and 13 inches high. The bees have them all full." E. DE LAIR.

Allen Co., O., Aug. 16, 1876.—"My bees have done well this summer so far, and are yet getting sufficient to keep them working in boxes, and are swarming some."

J. E. RICHIE.

Barren Co., Ky., Aug. 17, 1876.—"This was the finest sumac harvest I ever saw, but it rained every day for three weeks and ruined its honey-producing qualities. Bee-culture is greatly on the increase here."

I. N. GREER.

Chicago, Aug. 18, 1876.—"Ed. A. B. J.—In answer to numerous letters of enquiry, and for the general information of bee-keepers, I will say that of all methods tried by me to fasten comb foundation in frames, I prefer to do so with wax. I take a board ⅜ inch thick, the size of inside of frame, and fasten it in flush with one side of frame, and then put the foundation in the frame laying on this board, fitting the underside of top bar and about ⅛ inch from either end piece, and say ½ or ¾ inch from the bottom bar. Pure bees wax will stretch but a trifle; that mixed with paraffine stretched so as to be worthless in every experiment I have tried. I would not advise heavy swarms to be put into hives filled only with foundation, as this weight might pull down even pure bees wax, but know that if alternate combs and foundation be put in, even for the strongest swarms, they will stand, as the bulk of the bees will go on the combs first and a few bees will first fasten the foundation more securely, and then more bees go to work in extending out the cells. I would advise taking out outside frames which are generally filled with honey and making room for 2 or 3 frames with foundation in the middle alternately, as before mentioned, in the midst of the fullest brood frames. I have had about 125 thus built this season. Most queens prefer new comb to lay in but I had one that seemed to prefer old comb. I have 19 stocks in ten 7x18 inch frame hives, near the city limits; increased from 10; but little surplus. I hope we will have a full and candid expression from all who have used foundation. C. O. PERRINE.

Palo, Mich., Aug. 14, 1876.—"I have discovered that when cold, freezing weather comes on in October that the queens not only stop laying, but that the majority of the brood and eggs in the cells are destroyed by the workers. This to me looked like a considerable loss of bees, especially when I was anxious to increase my colonies as fast as possible. I concluded that a colony without a queen would not be likely to destroy their brood and that it would be much better to have them hatch and use them to make new colonies than to have them lost. In doing this it is necessary to rear queens for them early enough that they may become impregnated while the weather is warm and drones are plenty. For this purpose I rear a lot of queens in August and keep them in a hive containing a small nucleus colony until they are needed. When cold weather and hard frosts come on in October I place an empty hive by each of my nucleus colonies until I have hives enough to make new colonies of the brood that would otherwise be lost. I then proceed to overhaul my colonies and select all the good combs of brood and place them together with adhering bees in the empty hives and put in their place other combs containing honey. Care must be taken not to take the queens along and not to allow them to rear queens, as they would not be likely to become impregnated and would make trouble to hunt them out before introducing a fertile queen. The combs from various hives may be mixed up together in one hive and there will be no trouble about the workers fighting as they are all in a strange place and strange to each other; each one seems to be happy that she is admitted in peace. I now let them remain quietly about three weeks when the queens in the nuclei may be introduced to them, and the nucleus colonies united with them and if, as some assert, your workers are the best to winter, they are in the best possible condition to go into winter quarters. The advantage in building them up close by the side of the nucleus colonies is that they can be united with them, and the hive they are united to placed midway between where the two sat, and they are right at home and none need be lost." S. K. MARSH.

We would advise none but those of much experience to attempt this late work, lest mischief be done to the depleted colonies. Our own observation hardly coincides with that of Mr. Marsh, as the eggs thus taken from the parent hive at any season are almost invariably destroyed soon after being taken away.—ED.

Brown Co., Wis., Aug. 15, 1876.—"I have lately commenced raising bees. Had some practice several years ago with the old fashioned box hives, but had poor luck. Am now using the Langstroth with Hart's patent, with good satisfaction. The latter I think to be a great improvement and by far the most preferable. I intend to make this my principal business now and desire to acquire all the knowledge I can in the business. The climate being severe here in winter I desire to know the best plan for a store house for bees in winter. I have a plan of my own, but may be defective therefore I want the studied plans of others of more experience in the business. This being near the right time to begin preparations for building their store houses for winter, will you please furnish through the columns of the JOURNAL the desired information? CHAS. R. CLOUGH.

[A full answer to this inquiry would occupy several pages and then might not be perfectly satisfactory. A review of back numbers of the JOURNAL will show that there is a great diversity of opinion about the matter of wintering bees. Some advocate letting them remain on their summer stands, with or without protection; others keep them in cellars or in buildings above the ground, etc. Among the main points to be observed in providing any winter depository are these: to keep out the light, to preserve an even temperature always above freezing, avoiding sudden changes, and to keep the air pure. If you have been a careful observer and reader, your plan will probably suit your own special wants as well as any other.—ED.]

American Bee Journal.

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We will hereafter send a choice tested Italian queen as a premium, to any one who will send us *five* subscribers to the AMERICAN BEE JOURNAL, with $10.00. This premium, which gives a $5.00 queen for five subscribers, will pay any one for taking some trouble to extend the circulation of the AMERICAN BEE JOURNAL. Premium queens will in every case be warranted.

TO POULTRY MEN.—For two subscribers and $4, in advance, we will send postpaid, a copy of A. J. Hill's work on "Chicken Cholera," as a premium. See his advertisement in this number. Those wishing this premium must mention it when sending their subscriptions.

☞ Those having anything of interest to bee-keepers are invited to send a sample for exhibition in our office. Send description and directions for using, and also give us prices.

HIVES.—We have made arrangements so that we can supply Hives of any kind, and in any quantity, on the shortest notice—either complete or ready to nail together.

COMB FOUNDATION for sale at this office, as well as hives, extractors, and other apiarian supplies, at the regular market prices.

WHEN your time runs out, if you do not wish to have the AMERICAN BEE JOURNAL continue its visits, just drop us a Postal Card, and say so—and we will stop it *instanter*. If you do not do this, you may rest assured that it will be sent on regularly. Let all "take due notice and govern themselves accordingly."

SEND POSTAGE STAMPS:—As silver takes the place of fractional currency, and something convenient to enclose in letters for small amounts is needed, we suggest postage stamps of 1 cent and 3 cent denominations. If folded carefully to about the size of the envelope, they will come even more securely than currency, and our business demanding large amounts of stamps, will render them as acceptable to us as fractional currency.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, OCTOBER, 1876. No. 10.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

GLEANINGS.

CARE OF EMPTY COMBS.—James Bolin says:

"I had several hundred frames of empty comb last spring, and as much of it was bought of neighbors who lost their bees last winter, and had left the hives containing it standing on the summer stands until I bought it, which in some instances, was after the weather became quite warm, it was full of the eggs of the moth-miller, and worms soon made their appearance. For some time I was at a loss as to how I could best arrange so many combs to fumigate them. I finally went to work and ripped out strips of inch lumber 2 inches wide for the inside pieces and 1½ in. wide for the outside ones. I rabbeted ½ in. square out of two corners of the 2 in. strips and one corner of the 1½ in. strips. I then nailed the strips in parallel lines, with the rabbeted sides up, securely to the ceiling overhead at such distances apart that the top bar of my frames would just pass between the parts left after the rabbeting was done. The frames hang on these strips the same as they do in the hives, are out of the way when not wanted either summer or winter, are easily put up or taken down by simply moving one end a short distance either way, and best of all, are in the most *comfortable place* when I close the ventilators, windows and doors, place a kettle half full of live coals in the room, and throw a pound of brimstone in it. In the above way by a half day's work I provided storage room for over 1,000 combs and it is out of the way and always ready for use when wanted."

STARTING WORK IN BOXES.—Novice says: Take a section, bees and all, from some stock that is working briskly, and put it in the centre of the one that will not work. We have successfully used this plan, excepting that we have always shaken off the bees. It may be worth while to try what difference it would make to take bees and all.

ITALIANS ON RED CLOVER.—Novice says his Italians have been working on red clover whilst the blacks were idle. Much capital was made of this point when Italians were first introduced, but there has been very little said about it lately, some having claimed that the Italians were no better in this respect than the blacks. We have our doubts whether the matter amounts to much practically but should be glad to hear from those who have had good opportunities for investigation.

IS HE A SWINDLER?—Lyman Legg says he received an order from Chas. Freed, of the American Honey House, Philadelphia, for 50 lbs. box honey as sample, which he sent, and has not been able to get pay or reply to any of his several letters. *Moral*—always inquire as to the responsibility of an unknown party before sending consignments to them.

REV. L. L. LANGSTROTH.—It gives us very great pleasure to note that this able veteran, to whom we all owe so much, is again so recoverd in health that he is able to take up bee-culture where he left off about a year ago.

BRTIISH BEE JOURNAL.

Gloomy reports and prospects were the rule during the early part of the season, but the opening sentence of the September number of the *B. B. J.* is:—"With this month will close a finer honey season than has ever been recorded in the annals of apiculture."

CAUSE OF SWARMING.—The editor, for whose opinions we have great respect, ventures a guess on this topic, which is at least worth considering. He says:

The cause of swarming is a problem which has puzzled the minds of investigators during many ages, and at the present day is a matter of speculation; but we have little doubt that the first suggestion of it to the bees arises from their hive or nest becoming over-heated. Excessive heat in a hive may be brought about by its being too much exposed to the sun's rays, by the over-crowding of the bees, by a sudden glut of honey, causing great excitement in the hive, or by the general heat of the weather; but we avow our conviction that heat is the exciting cause of preparation, and a continuance of it, with a fair amount of honey coming in while the days are lengthening, will surely cause a healthy colony to swarm.

We do not see the exact bearing of the last named condition; most of our own swarming come after the days cease lengthen.

Worker Brood in Drone Cells.

"I send you a piece of drone comb with worker brood in, for you to see that there are some curious freaks in the egg-laying of the queen." R. R. MURPHY.

This was a very clear case. Cells four to the inch, flat caps, out of which hatched nice young workers.

The case is very interesting, but is probably, as stated, only a "freak" from which no practical results can be directly developed. We are glad, however, to learn such freaks.

The Centennial Meeting and Show.

As the time is fast approaching, and as many enquiries are made, we will again give notice that the special show of honey and wax at the great International Exhibition of Philadelphia, will commence Oct. 23d and close Nov. 1st, 1876. Entry blanks can be procured of Capt. Burnet Landreth, Chief of Bureau of Agriculture, or of the undersigned.

In addition to the inducements offered by the Centennial Commission, the North-Eastern Bee-Keepers' Association offers $35 for the best and most meritorious display of comb and extracted honey and wax—conditions as follows: The honey and wax must be of fine quality and put up in elegant packages, such as are most likely to find ready sale at high prices. Other things being equal, the larger the display, the greater the merit.

The appointment of judges on this prize is retained by the Centennial Commission, the award being subject to the foregoing regulations.

The Association offers $25 for the best and most practical essay on "How to keep bees successfully during winter and spring." These essays should not treat upon the physiology of the bee, except so far as is necessary to explain instincts and management, This is suggested with a view to making them brief. With bee-keepers the ultimate idea of success is the attainment of pecuniary reward, and in deciding upon the merits of the essays, the judges will keep this idea prominent. Arrangements are being perfected to have a committee of three from different parts of the United States, to decide upon the best essay.

We certainly hope a lively interest will be taken in the matter of display so that American bee-keepers shall get the credit due them for the rapid progress they have made.

Upon this occasion the attendance of bee-keepers should be the largest ever seen in this country. The varied and magnificent display at the Exhibition; the show of apiarian apparatus and special show of honey; together with the satisfaction obtained from a fraternal shaking of hands and mutual interchange of ideas, of those long acquainted through printed mediums, should be ample inducement to make a long trip to this meeting.

The president of the National Society writes that he thinks the change in time advisable. In accordance with the arrangements and this opinion, we announce that

THE NATIONAL BEE-KEEPERS' ASSOCIA'N

will meet at Philadelphia, Pa.,

ON WEDNESDAY, OCTOBER 25th, 1876.

Bee-keepers will please report themselves at the department devoted to the display of honey, at 10 o'clock, A. M. After temporary organization, the Association will adjourn to some convenient, suitable place, for the use of which arrangements will be made.

We hope the special inducements offered for this meeting will be appreciated by bee-keepers generally, and we anticipate a large gathering—one suited to display the importance of our industry in this centennial year of American independence.

J. H. NELLIS,
Sec'y Centennial Committee of the N. E. Bee-Keepers' Association.
Canajoharrie, N. Y., Sept. 25, 1876.

The publisher of this JOURNAL expects to be present, and hopes that the show of honey will be good and the convention large and interesting. Many prominent bee-keepers have promised to attend and the meeting will, no doubt, be a success.

Board can be obtained in Philadelphia from $1.00 per day. The Boarding House Association, 721 Arch St., will, if requested, procure rooms and board at reasonable rates, and invites correspondence from those intending to visit the Centennial.

In the matter of the charge for admission, a fifty-cent note paid at the gate admits to grounds, and there is no further charge. A visitor can enter one building or all of them as he sees proper.

Let all who can, go to this Centennial meeting—they will never have the chance to attend another.

Barren Co., Ky., Sept. 16, 1876.—"I wish to know how the cheap honey, advertised in "Honey Markets" in A. B. J., would do to give bees to store for winter use? Some of our bees will not store enough to winter on, and we think of buying some for that purpose. I see that King's B. K. Text book speaks of cheap West India honey as being suitable for this purpose. What is it, and what will it cost? I see that some is advertised in St. Louis at 7@9c., and in Chicago as low as 8c. Will that kind of honey do for winter feed or stores?"

S. T. BOTTS, M. D.

[Extracted honey would be good feed, but you would hardly be able to purchase in Chicago at 8c., although if you were to throw some on the market you might not get any more. Strained honey and West India honey we should not want to feed. Indeed, we should rather not feed extracted honey without knowing where it came from. Sugar syrup is probably as healthy as any feed, but should be given at once so as to be sealed. It might be well to try placing over the frames dry lumps of crushed or block sugar.—ED.]

Our Premiums for Clubs.

A. G. Hill has sent us one of his Gas Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before January 31, 1877. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

D. A. Pike will present one of his beautiful Albino Queens—whose progeny will be one-half Italians and one-half Albinos—to the getter up of the *second* largest club of subscribers. The Albino will be sent, post-paid, May 1, 1877.

We will add the following:

For the *third* largest list, we will send a tested Italian queen in May, 1877.

For the *fourth* largest list, we will send 500 young tulip trees (4 to 8 inches high) in April or May, 1877.

For the *fifth* largest list, we will give a copy of THE AMERICAN BEE JOLRNAL for 1877, post-paid.

For the *sixth* largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 272 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once.*

☞We have received the catalogue of Geo. Neighbor & Sons, London, which is the most complete thing of the kind we have ever seen. Cuts, descriptions, and prices of the different hives and other articles are given, making the information very complete. We cannot but wonder at the offering of two or three kinds of hives without movable frames.

Mr. Harbison is now at the Centennial with a very handsome case of honey. The case alone cost $250. He has 3,000 stands of bees, and they annually produce about one hundred tons of honey.

☞Please look over "Our Clubbing List" before subscribing for *any paper.* It will pay you to avail yourself of the advantages there offered.

We will present 100 tulip trees to any person sending one or more new subscribers for 1877. See Club Rates on page 272. The trees will be from 4 to 8 inches high, and will be sent in November or May, as desired. Those desiring these trees must mention them when sending in subscriptions.

Foundation Machines.

EDITOR AMERICAN BEE JOURNAL: Seeing a request in your August number for reports about King's Comb Foundation Machine, I would say that I have seen and admired some specimens of the work of these machines, and pronounce the work just about perfect. The bases of the cells are exceedingly thin and the "shoulders" high, and all very smooth, well-formed and regular. Nothing better in this line could be desired. J. HASBROUCK.

We have seen specimens of the foundation from King & Slocum, but have no report from any one who has a machine. Does Mr. Hasbrouck know of any bee-keeper who has one, and if so with what success has the machine been used? The practical question for bee-keepers is, whether it will pay for each one to have his own machine so long as the foundation can be bought for some 60 or 70 cents per pound? Has any one bought a machine for his own use, and would he advise others to do so?

By an oversight the last "cut" on page 265 is printed bottom upwards, and in the seventh line of second column, the word *remain* should be "retain."

☞Read our list of Premiums for getting up clubs. We have extended the time to January 31, 1877—in order to encourage agents to work for the best premiums.

To all new subscribers for 1877, we will give the remaining numbers of this year free, or a work on bee-culture, as they may choose.

When writing for The American Bee Journal it is just as well to write on both sides of the sheet of paper and will save postage, It is usual to ask to have it written only on one side for a daily or weekly, but for a monthly it makes no difference, as we do not "cut up" any article for the printers. We would ask that all items of business, etc., be written on a separate sheet, however, as we file all such for reference.

NEW MUSIC.—"Angels hover o'er our Darling," by Geo. Hastings, price 40 cents, with splendid lithographic title page. The above song has been sung by well known vocalists with great success, and it bids fair to become a very popular song indeed. It is not very difficult. The music is sweet and plaintive, in perfect keeping with the words. It certainly ought to be found upon every piano forte in the land. Address, F. W. Helmick, Music Dealer and Publisher 50 W. 4th-St., Cincinnati. O.

Mrs. Tupper's Trouble.

The following telegram will answer inquiries concerning Mrs. T's whereabouts:

DAVENPORT, IOWA, Sept. 13.—Mrs. Ellen S. Tupper, who, about a year ago, forged notes to the amount of $13,000 on different parties in Iowa, was brought to this city last night, in charge of an officer, and lodged in jail. She had sold two forged notes to W. F. Ross, of this city, for which she was indicted.

From the Davenport *Gazette*, of the same date, we clip the following:

Last May the Grand Jury of Scott County found two indictments against Mrs. Tupper—one for forgery, and one for uttering a false note. It was not until the middle of August that Sheriff Leonard ascertained her whereabouts—in Lincoln Co., Dakota. Her home is a farm of 160 acres, with another 160 acres as a "timber claim." The officer arrested her and she is now in the county jail, awaiting trial.

It is a strange, sad case. It doesn't seem possible for her to escape conviction save by the plea of insanity. There are the notes, bearing the indorsement of men of prominence and wealth, who make affidavit that they never endorsed the notes.

CALIFORNIA HONEY.—We received a call from Mr. Chas. J. FOX, of San Diego, California, who visits Chicago on business for the San Diego Bee-Keepers' Association. The honey interest in San Diego County is a large and rapidly growing one; the estimated crop this year being 500,000 pounds of comb, and about an equal amount of extracted and strained honey. Mr. Fox has samples of both, which we consider very fine. The Association which was incorporated about three months ago under the laws of California, is a co-operative one, in the interest of the producers. They propose to repack and grade all the honey shipped, affixing certificates of quality to each case, in the same manner as Government revenue stamps. They have a store-house in San Diego where this is done under personal supervision of the officers of the Association. Arrangements have been made for careful handling on steamers and cars and for through shipment from San Diego to Chicago or other eastern cities, in car-loads, where the honey will be placed in the hands of commission merchants and agents for sale; the object being to sell direct from producer to consumer. The officers of the Association intend to establish a national reputation for San Diego honey, which they believe excells in color, body and flavor any other in the world. There is a very large area of honey-producing territory in Southern California, embracing Santa Barbara, Los Angeles and San Diego Counties, and as it can be produced there for less than the materials for making artificial honey can be bought for, the public may be sure that any honey shipped from that region is perfectly pure, and the San Diego Bee-Keepers' Association propose to guarantee all extracted or comb honey shipped by them. Mr. Fox intends to canvass our market and go to other eastern cities for the same purpose. Such societies as he represents are of great benefit both to producers and consumers, and we heartily wish them success.

Questions and Answers.

BY CH. DADANT.

Does it change the size and color of an Italian queen to mate her with a black drone? GEO. A. VAN HORN.

No!

I have three hives of Italian bees that have sour honey throughout, mostly uncapped, no brood and no eggs, but nice looking queens. What is the cause, and what will be the effect, and is there any remedy?

Marion Co., Iowa. A. N. CROSBY.

I cannot tell the cause, I have never seen sour honey in my hives. If the bees are compelled to eat this honey, their death is certain. Remove it carefully and if their provisions are insufficient, replace it with combs of sealed honey. This sour honey can be used to make good vinegar.

I have 45 swarms in Langstroth hives. They commenced robbing this morning and I can do nothing with them. They robbed one another early in the spring. I had several killed clean out. G.

When robbing has just begun, you can stop it by contracting the entrance of the hives, and by shutting up the robbed hives at night, opening the entrance only when the guardian bees are on the alighting board, in the morning. If by such means robbing is not stopped, ascertain if the robbed colonies have a laying queen, and give them brood, young and hatching brood, and young, pure Italian bees.

I have often stopped robbing by giving a few young, pure Italian bees to the robbed colony. If there are no queens nor young brood, and if the stock is feeble, or if it is late in the season, do not try to save it, but break it up, giving its bees to some other colony. Before uniting the bees take care to ascertain that there are no robbing bees left in the hive. To that end, take out after sundown, all the combs, one after another, and shake the bees in front of the hive. The robbers will return to their colony and the robbed bees will remain alone.

If all the means above indicated do not succeed, ascertain which are the robber colonies. These colonies are working while the others sleep. Then exchange places, putting the robbed colony in place of the robbers. In every case it is indispensable to contract the space in the robbed hives till all the combs are covered with bees. Sometimes, when the robbed bees seem accustomed to the robbing, it is necessary to carry the robbed hive in a dark cellar for 2 or 3 days. The hive should be put into the cellar at night, and put back in the morning, using the necessary preventions as stated above. Nine times out of ten the bee-keeper is the cause of robbing by letting his bees find sweets in time of scarcity.

Letter from Bohemia.

A letter from Rudolf Mayerhoffer, Esq., editor of the *Bienenvater*, at Prague, Bohemia, Austria, states that the general meeting of bee-masters at Bohemia was held in Tetschen on Wednesday, Sep. 6th; and the meeting of the German bee-masters was held at Breslaw on Sept. 14th. He wishes that American apiarists could have had on exhibition there some of the products of their apiaries. He remarks that honey boxes are unknown in Austria and Germany.

He states that the French say that Americans do not believe in, or use movable combs to any great extent, and asks if this is so. It may surprise some of our readers to know that among French apiarists there are two schools, the *mobilistes* and the *fixistes*, the former advocating movable and the latter fixed combs. In this country a bee-keeper who should use anything but movable combs would be considered very much behind the times or in some way very peculiar. If there is, in this country, any man who is keeping bees to any extent without using movable frames, he is certainly not widely known among the fraternity. It would be somewhat natural that this should be so, as movable frames in their present practical form were the invention of an American—the Rev. L. L. Langstroth — whom apiarists, the world over, delight to honor.

The Value of Italians.

Moore's Rural New Yorker endorses an article written by a correspondent of the London *Journal of Horticulture*, in which the writer speaks in not very flattering terms of the Americans as exaggerating the value of the Italians or Ligurians. He says:

"And even in America, in a convention of bee-keepers, the question of the superiority of Ligurians was discussed by the most able men of that country; and, so far as I could judge, the bulk of disinterested evidenee was not in favor of Ligurians, and objections were made by honest men to their bee journals being edited by dealers or interested parties.

"I am visited by respectable bee-keepers from all parts of the country, and those who keep Ligurians, as well as those who live where they are kept, tell me that they are no better than common bees. I am not prejudiced against them in any way, and shall be pleased to see evidence of their superiority from any trustworthy quarter; but nothing but facts are admissible as evidence. When these are produced I will speedily rid my garden of lazy bees, as my object in bee-keeping is profit. We shall be abundantly gratified if satisfactory evidence be presented to the readers of this journal and the bee-keepers of Great Britain that a superior bee is among us. In my search for evidence of the superiority of Ligurian bees I have been unsuccessful for ten years."

We are aware that exaggerated statements have been made as to the value of Italians, and will humbly receive whatever reproof our English cousins may choose to give us for our tendency to brag. But we are surprised that a paper for which we have so high estimation as we have for the *Rural New Yorker* should virtually endorse the statement that Italians are no better than black bees. If in any convention the matter was discussed by the most able men of this country, and the bulk of disinterested evidence was not in favor of Italians, then we failed to read aright the reports.

The editor of this journal is interested in the Italians only so far as he is interested in getting stock that will give him the best yield, he having only honey to sell, but he would pay a very high price for an Italian queen rather than keep only black bees. We feel safe in making the assertion that not one in a hundred of the intelligent bee-keepers of this country who have tried the Italians, would be willing to go back to the common black bees.

If there were no other advantage but the single one of keeping the hive free from the moth, this would be enough to place the Italians far above the blacks.

Advice to Beginners.

Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain the first Volume of THE AMERICAN BEE JOURNAL. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant of the celebrated Dzierzon theory. These articles run through all the numbers, and are from the pen of the Baron of Berlepsch. We have a few copies to dispose of at the following low prices: in cloth boards, $1.25; in paper covers, $1.00, postpaid.

Many of our best apiarists say they would not sell their back volumes of THE AMERICAN BEE JOURNAL for ten times the sum they cost, if they could not replace them. They are exceedingly valuable alike to beginners and more advanced apiarists.

☞The Abbott Pocket Microscope, advertised on another page, is an instrument of great usefulness for examining flowers, seeds, plants, insects, etc. It is in a convenient form for carrying in the pocket and thus be ready for use on any occasion when wanted. We will send this microscope to any address by mail, post-paid, upon receipt of the manufacturer's price, $1.50.

Biographical.

Wilson H. Andrews

Was born near Lebanon, Wilson County, Tennessee, October 15th, 1830. He was raised at farm work and held by his father till in his 21st year, when he left the farm and went to school and taught school alternately till 1856, keeping about even in financial matters. On the 3d of September, of that year, he married Miss Sarah A. Green, also of that county. He then entered the law school in Cumberland University at Lebanon, where he graduated June 28th, 1858.

On the 18th of the following August he left his native State to seek his future in the State of Texas, soon arriving at the town of McKinney, in the county of Collin,

Texas, without money. He resumed teaching and continued one year, then began the practice of law, at which he did well for that country and time. In 1862 he was elected District Attorney for his judicial district, and in 1864 was re-elected. On the 10th of July, 1870, he was appointed Judge of the 11th judicial district of Texas, which he held till the 17th of April, 1876, giving general satisfaction. He has resumed the practice of the law.

As soon as Judge Andrews acquired sufficient means he began to show great zeal for agricultural and horticultural pursuits, and soon became quite an amateur. He gives much attention to the cultivation of grapes, Jersey cattle and Italian bees, hence his place is called, "wine, milk and honey," but another word is necessary to give a correct idea of his place, to wit: lard, as he has had unequaled success with the Chester White pig.

In the year 1866 he began bee-culture with the Langstroth hive and black bees, he read all the works on bee-keeping, and in 1868 got up a correspondence with Mr. Langstroth, from whom he purchased an Italian queen, but the fates seemed to decree that none should get through alive—both parties worked faithfully till May, 1870, before success crowned their efforts, and a fine queen was received alive. Mr. A. had paid out up to that time, $48.50, and the trouble and anxiety of Mr. L. must have been worth five or six times the price of the queen—$10.

In September, 1870, Judge A. got a queen from Mr. H. A. King, of New York, brought by hand of a friend—Mr. Z. E. Ranney; she bred some three, some two, some one, and some no yellow band workers, but the black bands of all her workers had a very unusual quantity of hair on their edges and it was as white as cotton, that with a jet black head made them very beautiful, especially those that had all black bands.

He has bought thirty-one tested Italian queens from the best of breeders, but thinks he never got but four pure ones, for which he accounts on the score of "fashionable Italians." He prefers to darken them to his own taste, as it takes but little of the *smut* to do on his, but he holds that about 7-8 and 15-16 Italian, if the taint comes on the mother side, are better for box honey than pure Italians, or lower grade Italians, or blacks. He does not believe that "the matter of color can be overdone," but does believe that color affords the only infallible test of purity of Italians.

In 1869 he adopted the American hive, slightly modified, of which he now has 212, filled mostly with pure Italians, but the others with what he calls smutty or fashionable bees.

Judge A. never cultivated bees for profit till 1875, and most of the labor in his apiary has been done by others under his direction. In 1875 he got about 6,000 pounds of honey, which netted him about 18¾ cents per lb. This year he has not had a pound of surplus and the honey season is past. He attributes the failure to the wet weather in May, June and July.

W. R. GRAHAM.

Correspondence.

For the American Bee Journal.

Bee Notes from Central New York.

I was unexpectedly called upon the other day to go and look over a farmer's bees, ten in number of hives, he told me they were not doing anything at all, that they were all black or the old kind of bees. On looking them over I saw that he had a miserable lot of queens, some so old that they produced but few eggs, like an old hen that had scratched up the things in the garden for the last six years, meaning they were nearly so old as the old hen; and some little inferior looking queens that I should judge were from third and fourth swarms, which the old man admitted. I have not kept any black bees for some years and was somewhat surprised to see the difference in gathering honey between the Italians and the little blacks. I prevailed on the old man to destroy a couple of his poorest old black queens and introduce two Italian queens, no matter of whom he bought them. I named a few reliable queen breeders, such as Mr. Hetherington, Mr. Root, on the Mohawk, and Mr. Nellis at Canajoharie. He wanted to know if he could get them for 25 cents a piece. I told him not to impose upon them so as to ask them to let him have them for one-tenth their value. I saw at once that a dollar looked larger in his eye than the hind wheel of a wagon, but he was willing to admit that the best wheat he ever raised came from the Mohawk flats. I then asked if he paid the price they asked for the seed. He said yes, then why not pay the price for the queens? That was a sticker for the old man. I told him I would introduce them for him free of charge. I discovered he was a little tight, but had not drank enough to make him liberal-hearted. I got into my wagon to go home, when he called me back and had concluded to have me furnish a couple of queens for him if I would let him have them cheap. I introduced two for him the forepart of June. About a week ago I visited the old man and opened the hives the queens were put in. He was surprised to see how much more honey they had gathered than the little blacks, in fact they were consuming the honey they gathered from clover and other flowers to feed their brood, the dry weather had told too plainly on the blacks.

So it is with some people, they would jump out of their shirt, if it was not buttoned tight around the neck, to pick up a cent, and not notice a dollar when it was within their reach, or would pay 25 cents for some little child's Sabbath-school paper, instead of paying two or three dollars for a good journal or family paper. The little Sabbath paper is all right in its place, so it is with little inferior queens as some bee-keepers save, although I must admit I have had good prolific queens from some small ones, but they are not always to be depended upon. If queen breeders, or farmers (I cannot call them queen breeders) would give a little more care and attention to their bees and not allow them to send out but one swarm to each hive, their bees would be stronger and do far better. My bees are doing well and I think they will as long as I am here to take care of them, when I am gone and the bees fall in other hands, I do not expect them to do as well, unless my youngest son had care of them; he understands them very well.

I hear of complaints all around me that bees are not doing well. I called to see one man that had but five left last spring out of twenty last fall, he told me they died and had plenty of honey in the hives—old box hives. I asked to see the old hives. On examination it was plain to be seen that they had filled their brood comb all but a small circle, so there were but few bees raised late in the fall. His wooden boxes were ten inches high and narrow, he said they would not work in them. I told him they were not high enough, he ought to have had a length of stove pipe and put them on. I mention this to see how foolish some people are. There was a call again for frame hives and the extractor, and thinking and reading and having some peoples' thoughts go a little farther than beyond their own farm. One man told me he had good luck with his bees when his first wife was living but since she had died his bees had not done near so well. Perhaps his first wife held on the ax while he turned the grind stone. And so it is this day, some men are asking too much of their wives, to take care of the bees and the implements to be used on the farm. As quick as they miss the half bushel or any farm implement they rush to the house and ask the wife where it is. Now if any man wants to keep bees and profit by them, he must look to them often and as soon as he discovers anything wrong with a hive, if they do not do as well as the rest, open the hive and find out the trouble and apply the remedy and not let them take care of themselves.

There remains a great deal yet to be learned about the honey bee. There is a vast difference in the prolificness in queens. If you want your bees to do well you must have them strong, and a goodly number of them in each hive before the honey season begins, so they will get their share of the honey, that not so much of it is lost or gone to waste. Most of mine were strong by the 1st of May, and I did not even feed any meal or honey to stimulate them. My boys have already sold over 400 lbs. of nice clover honey and have over 200 lbs. to deliver tomorrow, Aug. 4. They are working finely on clover yet, that is sweet clover, the white clover is past for this season. Soon buckwheat will be on hand.

ABM. L. STANTON.

Schoharie Co., N. Y., Aug. 3, 1876.

For the American Bee Journal.

King Birds.

In the July number you call for information relating to the king bird and its habits. As they are the worst enemy that I have to contend with in the bee business I will state some of their habits and my observations and treatment of the birds. They make their appearance here in the spring, about the 1st of June, and the middle of the month they commence to build their nests. Those in close vicinity to my apiary I tear down and destroy. I have the worst trouble with them when the young birds commence to fly. The old birds will bring them from a distance and locate them in the vicinity

of my hives to teach them to catch on the wing. Then I take my breech-loader and practice on the wing, too. I have killed and dissected them and found the honey bee in them. Their general habit is to sit on the top of some post or mullen stalk on the watch for the loaded honey bee on her bee-line for home. His sharp, quick eye is on her, in an instant he is in the air on the line, you hear his bill snap and the honey bee with her load of honey is no more. The honey bee when loaded flies lower and slower than one that is empty, consequently they fall a more easy prey to the birds.

My bees have done very well so far this summer. I get more honey in a dry, hot, than I do in a cold, wet, summer.

J. W. CONKLIN.

Suffolk Co., N. Y., Aug. 8, 1876.

For the American Bee Journal.

Scraps from Illinois.

MR. EDITOR:—In reply to your query in regard to controlling swarming, I would say that I work exclusively for extracted honey, as do all of the bee-keepers in this place. I now have 20 very strong stocks—over 1,000 lbs. of honey in the hives—have sold 3 and bought one. Had 11 light stocks in the spring with not a pound of honey to go on when flowers began to come, but at swarming time my bees were very strong, as I had plenty of empty comb to work with. Have taken to date 304 lbs. of extracted honey, and with buckwheat just coming into bloom, heart's-ease (smartweed some call it), white clover, rape, and other fall flowers, we expect a good fall harvest.

I have heard, but have never known of an Italian swarm coming off without starting queen cells, and am still in doubt about a natural swarm coming off without it. Queen cells are sometimes so carefully concealed as to be hard to find except by careful examination.

"Is a wet season best for honey?" I answer yes, most assuredly, at least that is the case with us, for with a wet season we get a good crop of honey early as well as late in the season, while in a dry season we get no more honey than will keep up brood rearing, till the fall harvest. But our honey resources may be different from those of other localities. WM. M. KELLOGG.

Oneida, Ill., Sept. 5, 1876.

For the American Bee Journal.

Marks of Prolific Queens.

MR. EDITOR:—Please let me ask if there are any established points in Italian queens to indicate one as a prolific breeder any more than others, as all must know that some are better layers than others. I have had several queens that could not lay an egg for several weeks, although they tried hard to do so as they went through the motion very often. I also have had, and now have, one queen that lays eggs plentifully but none ever hatched. I want to hear through your paper what points, if any, are known that will show the superior qualities of laying capacity of one queen over another. I have thought that I have seen a difference in the make or shape of queens, as there are certain marks in cows that show a good milker and other marks to show a good breeder, so with all domestic animals from a dog to a horse. Why not the same laws to govern bees? Now I don't want to puff my observations on the stature of queen bees but if they are new I am willing to give the same to any who are in want of them.

I also want to know if any one has observed any union of sex in one bee. On or about July 10th, 1876, I had a queen cell to hatch out in nucleus No. 13 but no queen there. I found a bee that was not a queen worker or drone, it had legs like a queen, head and wings of a worker and abdomen of a drone. I thought of caging it and sending it to you as a specimen of bees, as you are wanting such at your office, but I waited several days to watch her motion and see more myself. It had no sting, as I tried to make it show it, and see whether it would go out to meet the drones. About five days after it was hatched it was not in the nucleus. Whether it went to meet drones and was lost, or was killed for a drone I can't say. I will say that there were no drones in the nucleus and no drone cells. This bee was the size of a common drone in body but lacking in size of head and wings to be a drone, her motion on the comb was that of a worker. F. R. DAVIS.

Noble Co., Ind., Aug. 7, 1876.

[We know of no special marks by which, at a glance, the prolificness of queens may be determined. If others do, we shall be glad to hear from them.—ED.]

For the American Bee Journal.

Another New Experience.

I believe it makes but little difference how long an individual may have been engaged in bee-culture, or however close attention he may have paid to the journals or to standard works on apiculture, he will frequently find his bees doing something he never heard or dreamed of. Here is a case in point.

About the first of August one of my best black stocks threw off a very large swarm. I was away from home at the time, but my wife, who is quite a bee-ist, took the matter in charge. The bees circled around a few minutes and then returned to the hive. On looking on the ground in front of the hive she found the queen, and taking her with about a quart of the bees, put them in a small nucleus hive and set them on a new stand a few feet off. In regard to this nucleus hive, more anon. I did not open the hive until about ten days after they had swarmed. I found considerable capped brood but no eggs and no larvæ, and no queen—lost I suppose in her flight to meet the drones—but in her place I found three queen cells, two capped and one just ready to cap. One of these looking somewhat suspicious, I picked the cap off and found it empty. The other capped cell I found suspended from the bottom of a piece of drone comb in the lower corner of the frame. It occurred to me from the fact that it was so near the bottom of the hive that the enclosed queen might have become chilled as we had had two or three quite cool nights. I opened it and found it as I expected—a queen nearly mature, but dead.

Now this drone larva must have been

some days old before the queen cell was constructed over it, and the question occurred to me, what would she have been had she hatched out; would she have been a drone-laying queen, or would she, as I think, never have become impregnated, and never have laid an egg that would hatch, or do such queens always die in the cell? I think I have seen such a statement somewhere. I need some light on the subject. The remaining queen cell I gave to a nucleus, but on opening the hive next day I found it destroyed. I substituted another from a nucleus Italian stock and it has given me a fine large queen.

Now for that nucleus hive mentioned above. They went to work as any regular swarm should, until last week they left the hive very unceremoniously and after circling around a short time, returned to the hive. The next day they did the same thing again, and I then thought it about time to interfere. As soon as the bees were about all out I opened the hive and found brood in all stages of development down to the egg, and a few very uneasy young bees on the combs. I closed the hive again and waited for the bees to return, which they soon did. When they were about half in I saw the queen strike the bottom board and enter the hive, but they were uneasy during the remaining portion of the day, and in the evening I opened the hive again and found a queen in a hug. On looking over the combs I found another. I caged the hugged queen and gave her to the old stock that had cast the swarm, but the query is, where did that extra queen come from? as I have missed none from any of my stands. I thought she might have hatched from the cell that I found in the old stock capped but empty, but it seems hardly probable.

San Jose, Ill. O. W. SPEAR.

[Within ten days after swarming a queen would not generally be found in the old hive, unless a young one just hatched.

A drone larva in a queen cell will never develop anything but a drone, but such a drone never hatches out; always dying in the cell. A perfect queen may, however, be raised in a queen cell suspended from the bottom of a drone comb, as it by no means follows that a larva in such a cell must be a drone larva.

As to the extra queen in the nucleus hive, if the hive was empty when the bees were put in, a queen probably entered from some other hive or nucleus, or a miniature swarm may have entered from another nucleus.—ED.]

For the American Bee Journal.

Bee Notes.

The season is now drawing to a close and it behooves us to look well to our pets—the busy little bees. They have worked hard for us all the long summer days and will now need attention to prepare them for the winter months. I always examine my stocks during this month, and before the honey season closes entirely. I do not believe in disturbing my bees after frosts come. Some hives that have swarmed late will yet be queenless, and as there are less drones flying now the queen will sometimes fail to mate. I give my stocks that have no laying queens some brood from another hive, this makes the matter doubly sure. Be careful about extracting from hives now, I do not extract any. As soon as the season closes, contract the entrance so that mice cannot possibly enter. They will now be in condition to leave till removed to their winter quarters. Much has been said, pro and con. as to the value of clipping the queen's wings. I clipped four choice ones this season. They have all been superseded but one, and their stocks persisted in hanging on the hive doing nothing till young queens were hatched, though there was plenty of room in the honey boxes. I have never clipped before and do not think I shall again. My bees have done well this season. Having sold all last fall, I began this year with four stocks from Rev. A. Salisbury, they have increased to ten and have made me something more than 400 lbs. of honey, of which 175 lbs. is box, balance extracted. J. V. CALDWELL.

Henry Co., Ill., Sept. 1, 1876.

[Is it at all certain that clipping the wings had anything to do with the queens being superseded? May they not have been old queens? We usually clip our queens as soon as they commence laying, and have no trouble about supersedure.—ED.]

For the American Bee Journal.

Bee-Killers—Asilus Flies.

To M. H. ADAMS, Fort Ann, N. Y.—The large two-winged flies which you have observed only within the last two years and which have the pernicious habit of killing bees, belong to an order of *Diptera* or two-winged flies, popularly known as robber-flies, or Asilus flies. They may be readily recognized by the stout thorax, narrow, strongly-nerved wings, bristly-hairy face and legs, and more especially by the long, slender abdomen tapering posteriorly to more or less of a point. There are several species all of which are, in the perfect state, fierce cannibals. Among these the Nebraska bee-killer (*Trupanea Apivora*, Fitch)—which derives its popular name from the State in which it was first captured—occurs very generally over the United States, proving in many localities very destructive to the honey bee. This fly is about 1⅛ inches in length, of a yellowish brown or yellowish gray color with the head, thorax and legs clothed with bristly hairs. It preys almost exclusively upon the honey bee, pouncing upon the latter in the air with lightning-like rapidily and alighting with its prize upon a leaf or upon the ground, pierces the thorax with its strong proboscis and proceeds to suck out the vital juices.

A very similar, though somewhat larger, species occurs in Missouri, and probably throughout the West, viz., the Missouri bee-killer (*Asilus Missouriensis*, Riley) which has the same rapacious habits and should be as mercilessly destroyed wherever found. These flies are so strong and swift of flight that it is difficult to capture them on the wing, but when they have settled with their prey they are less wary and may easily be

taken with an insect net. One should avoid grasping them in the hand, as the powerful proboscis is capable of inflicting a sharp sting.

But little is known respecting the preparatory stages of these Asilus flies. The larvæ are footless and live in the ground and such as are known are strangely enough vegetable feeders. The larva of the Silky Asilus (*Asilus sericeus*, Say) was discovered by Dr. Harris, feeding upon the roots of the rhubarb plant. C. V. RILEY.

For the American Bee Journal.

"Ox-Cow" Queen Bees.

MR. EDITOR:—I was a keeper of bees,and not without enthusiasm, for some 18 years, from about the year 1840. I read every book on the subject that I could obtain, and most earnestly and carefully studied the ways and habits of this fascinating insect, in my dozen hives. Much less was then known than now, and the hives then used were less favorable to the investigator than those with the movable frames, now affording so satisfactory facilities to the apiarian student and manipulator. Nevertheless, something was learnt by use of book and hive, and the experience of others, and I ventured, after a while, to write and deliver a lecture on the "Habits and Management of the Honey Bee." Among the places at which it was read was the Representative Hall of the State House in Boston, before the Massachusetts State Agricultural Society, a portion of the lecture being devoted to the anomalous,but now universally known fact, that bees when deprived of their queen or mother-bee will, by some process or means as yet unexplained, so operate upon a worm or larva, that left untouched, would become a worker or barren female, as to render her organs ot reproduction fertile, the change produced even affecting her shape and size, as well as her after habits of life.

A writer in the Maine *Farmer* made a report (though with some inaccuracies) of my remarks, calling them "new, interesting, and instructive;" but very soon afterwards the editor of a Portland, Me., paper, under date of April 11, 1842, assailed both lecture and lecturer with a savagely severe and denunciatory criticism, calling the former "a bungling piece of nonsense, of a contemptible sort, and full of absurd statements," and declaring the latter to be "wholly ignorant of the subject upon which he undertook to enlighten others." Specially severe was he upon my statement that a queen bee can be manufactured out of the worm of a working bee or neuter. "The thing is as impossible," he added, "*as it would be to make a cow out of an ox*," and "nothing can exceed the contemptible folly of book-worms in the silly stories of the ancients about making queen bees out of workers." What ancient writers treat of this subject the critic did not say. I made no reply to this onslaught, preferring to be guided by Solomon's advice (Prov. xxvi. 4), and to let time determine truth.

This reminiscence came to my mind as I stood, a few days since, in the apiary of Mr. H. Alley, in Wenham, Mass., and witnessed the wonderfully skilful and truly scientific operations of this most expert bee-keeper. He makes a business of breeding queens, selling them when ready for market, and sending them in little boxes adapted to the purpose, to purchasers in all parts of the country. He and many other apiarists are actually accomplishing the thing declared to be "as impossible as to make a cow out of an ox." He has, this very centennial year, sent to customers more than 750 of these "ox-cow" queens, and will sell more before the close of the season.

As is well known, the Italian bees, imported into the United States about 15 years since, are the favorite of very many of the present bee masters. They were not known here in my bee-keeping days (1840 to 1858), we having the English bee imported by the early colonists, a much more pugnacious insect, and said to be less accumulative of honey than the Italian, while the Italian queen is said to be more prolific of eggs,and therefore a hive of Italian is more densely peopled than a hive of English bees.

I well remember how difficult it was, in former days, for those who knew only the English bee, to understand the poet Virgil's description of the *queen*, he, however, erroneously calling it the *king*. I translate the passage from his Fourth Georgic:

Glowing with YELLOW scales and DAZZLING hue,
His body marked with GOLDEN bands we view—
If safe this King, one mind abides in all—
If lost, in discord dire and feuds they fall;
Destroy their work, waste all their gathered store,
Dissolve all bonds, nor are a nation more.
If he but live, ruling the glowing hive,
All are content, the fertile race survive.
Him they admire, with joyful hum surround,
While labor thrives and honeyed sweets abound.

Now we know that the poet's *king* is a *queen*, or more truly a fertile mother-bee, and taking the Italian bee, of which Virgil wrote 2,000 years ago, she has a *yellow* body and not a *black* one like the ordinary queen of the English and American hives. I was very much rejoiced when I first saw an Italian queen, seeing by the facilities afforded in Mr. Alley's apiary more queens in a single hour than I had seen in all my own bee-keeping experience. It was a real apiarian revelation, and I only regretted that it had not come to me at an earlier day, when fitting boys for college, I encountered this description by Virgil, then wholly obscure and inexplicable. I do not now recall any explanation of the difficulty by any annotator of the Georgics, even Martyn, the learned Professor of Botany in the University of Cambridge (England), in his admirable translation (1740-41), being wholly silent on the subject. Now Virgil's description is intelligible, as well as wholly accurate. HENRY K. OLIVER.

Salem, Mass., Aug. 29, 1876.

For the American Bee Journal.

A Visit to a Michigan Bee-Keeper.

I arrived at Dowagiac and enquired for Mr. H's apiary. On my arrival there I was met by Mr. H., and was made welcome, as soon as he found I was interested in bees. By the way, Mr. H. is "chock full" of bee notions and has some new and grand schemes for bee-keeping, which from his extensive experience he is confident will become universally adopted very soon. I remarked you have a fine apiary here, Mr.

H. Oh! yes, I used to think so, but since I have perfected my new scheme for bee-keeping, I intend disposing of all of my old fogy "fixins," such as movable comb hives, honey boxes, Italian bees, section boxes, frames, honey extractors, wax extractor, etc. Why, just come over here and see my new hives and ground for my new apiary. I went and remarked, why, Mr. H. you are returning to the old box-hive system. No, sir, do you not see this hole in the bottom of the hive? Now that just fits on the top of that stake—placing the hive on top of a stake about two feet from the ground. You see that forms a pivot and the hive turns on that, so the entrance always faces the sun. But, Mr. H., how is that done? Do you not see I have this large box nailed fast to the top of the hive? Oh, yes, I suppose that is for surplus honey. Mr. H.—no; I fill it with dirt and plant sunflowers in it. They face the sun in the morning and move around until sunset, thus keeping the entrance facing the sun all day.

I suppose that row of post-holes running past the ash-house is for putting up a fence to protect your bees? Mr. H.—No; they are my sulphur pits for taking up bees in the fall, and that little house is where I keep my brimstone. I don't intend to fence in my apiary with a board fence; do you not see I have planted out a lot of hollow trees? As soon as they get large enough I intend to throw away my box hives and keep bees more natural. But do you not think those trees too close to each other? Mr. H.—Yes; but you see I will have to cut some every fall for honey, and that will thin them. How can you sell bees if you have them all in trees? Mr. H.—I will cut up the hollow trunks of the trees I "fall," make gums of them; and use them for swarms to sell. Do you see I will grow my own hives in that way? Do you not mash your honey in "falling" your trees? Oh, yes; but honey is not worth much now; one pound of wax is worth three of honey; so I just put it all into a kettle, boil it and the wax all raises to the top, I let it cool, lift off the wax and dip out the honey which is thick honey, not thin, sour, extracted stuff, worse than sorghum syrup. Thus ended a very pleasant visit with Mr. H.

A CANADIAN BEE-KEEPER.

For the American Bee Journal.

A Protest.

On page 219 of the August number of the JOURNAL I find an article taken from the *N. Y. Grocery and Provision Review*, which to my mind militates against the interest of every practical apiarian in the land. I refer more particularly to this paragraph in the article alluded to:

"Why should not our governments—national and State—stock our fields with the 'busy little bees' as well as our streams with fish?"

Now in the matter of fish I am not directly interested, but in that of the "busy little bees" I am. Of course it is to the interest of publications of this class to bring as much of an article as possible upon the market and thus cheapen it, but in this case it is certainly detrimental to those who have devoted their best years probably to the cultivation of the honey bee, thus depriving them of the fruits of years of toil.

Did you ever see an individual, engaged in any branch of business, no matter what, throw his influence in favor of our governments—national and state—opening in every town in our country a business in direct opposition to that in which he is engaged? For instance, did you ever see a man engaged in the grocery business who would be willing to have the Government start a grocery store in his town? I think not. It is not human nature. But laying aside the fact that the above publication advocates this idea, let us look a little farther, and we find men engaged in bee-culture who, unlike the grocerymen or dry-goodsmen or any other man, will urge upon clergymen, and upon widows, and in fact upon men and women of all states and conditions in society, the necessity of engaging in bee-culture if they would line their pockets with greenbacks and heap up riches against the day of governmental bee-culture. But we find almost invariably that such men have some kind of a patent or other that they wish to dispose of, and the more men and women they can prevail upon to enter the lists as bee-keepers, the more they will realize from the sale of their patents.

Now this it seems to me is all wrong. By far the greater number of apiarians in the country are not interested either directly or indirectly in these patents and should not be made to suffer for it.

The demand for honey is not at present equal to the supply and consequently low prices prevail. What will be the condition of things when our Government starts a bee shop in every field, and but one in fifty are prevailed upon by our enterprising patent venders to embark in an enterprise in which it is all income and no outgo according to their showing.

Now I do not wish to be understood as throwing a wet blanket upon the ardor of any one who is about starting in the business. Such will find in time that every cloud has its dark side as well as its silver lining; but if any individual, of his own free will and accord, and in the presence of certain facts which he will find out sooner or later, wishes to embark in the business, I can bid him God speed, but would for his own good say, "Don't believe all the good things you hear of it. Every business has its ups and downs, and if you will pay close attention to our bee journals I think you will find as many downs as ups recorded by men far advanced in the science too. It is not all gold that glitters." I think I may say of myself, and I don't want to seem egotistical, that I have in the main been successful, but where one has succeeded hundreds have failed.

Take an apiary properly located and handled by a man who understands his business and there is a fair chance of success, but the man who without any practical knowledge of the business embarks largely in it will probably be obliged to step down and out before he realizes any of the profits said to accrue to those who have but to start and be made happy.

San Jose, Ill. O. W. SPEAR.

[We hardly suppose that any one contemplates the plan of having the Government establish apiaries in all the towns of our country for the purpose of supplying those

towns with honey or bees. There are, however, certain kinds of aid that the Government can give to different industries that will be of benefit to them. The proprietors of a steamboat line on the Mississippi would hardly feel themselves benefited by the establishment of a rival line owned by the Government, but would be very glad to have the Government interest itself to improve the navigation of the river. Farmers do not object to the experimental gardens at Washington, and an experimental apiary established at one or more points would hardly lower the price of honey very materially, bee-keepers themselves having the full benefit of all experiments made. Just now, it would be quite convenient if the Government would import and try any new varieties of bees which private enterprise have as yet left untried on account of the expense. We confess, however, that we do not feel very sanguine about any great help from the Government, and, indeed, we do not think much aid is needed, but we do believe that a little intelligent assistance might be productive of good.—ED.]

For the American Bee Journal.

Prevention of Swarming.

MR. NEWMAN:—The JOURNAL is received promptly at the beginning of the month; by the way the advent of THE AMERICAN BEE JOURNAL is looked for with more interest than that of all the others combined, as the editor is not interested in the sale of all kinds of new-fangled bee fixtures, to worry the small change and the patience out of the poor innocent bee-keepers. When we lost Mr. Wagner we mourned him as one whose place to us would never be filled, but the more we know of Mr. Newman the more we feel that Mr. Wagner's mantle has fallen on worthy shoulders. This with the idea that you are the editor of the AMERICAN BEE JOURNAL as we have recently seen no other name to fill that post.

On page 210 you ask me to tell what means, if any, I use to have so little swarming in such strong stocks. That is a very difficult question to answer so as to make it intelligible to the great mass of readers. If I were to say that it is more in luck than any thing else, perhaps it would be nearer the truth. Still there are facts and causes when combined that will to a very great extent prevent swarming; while there are other causes that I believe are sure to raise the swarming fever. First then we will take the preventives. I consider shade all important, the shade of large trees is best, if we haven't those we must arrange artificial shade. When bees select a home naturally I believe they generally choose a tree in a shady spot, or if it is not shaded it is high up in the air away from the reflected heat of the earth. By the way, has any one ever known a colony of bees in such a position to swarm out of their tree when they had room to build comb below the cluster? I think the idea entirely opposed to nature of placing bees out exposed to the full rays of the sun and the reflected heat of the earth, hence I have adopted this season the stand two feet high, as described in Hunter's Manual, and think I will save more bees from toads and skunks than I will ever lose from dropping on the ground, and don't have to break my back in stooping to handle brood and boxes. Ventilation is important, hence I make the entrance of all hives ¾ inch high by 12 inches wide, with ventilator for hot weather same size at the back; or if side-box hives they have wire cloth ventilating holes under the back boxes—these hives have their entrance at the side of the comb, under the front boxes. Wire cloth ventilators in such a position will seldom be glued up, while if under the brood they will generally be waxed up tight. The entrance stick is simple and cheap, and closes up to 3 inches wide or to a single bee, and ⅜ inch high for fall and spring when there is danger of mice getting in.

Plenty of box room is important, as close as possible to the brood and with free access (plenty of large holes in the boxes) to the boxes. The side-box hives, or those that take both side and top boxes, have swarmed less than the top-storing hives this season, because we could give the bees more box-room. As it was impossible to get more than two tiers on a hive at one time, as the bees would generally climb up and finish the upper box before commencing on the lower one, and as the side-box hive takes two tiers on top, it had the advantage, and hence bee-keepers say this is a side-box year. But taking one season with another, I consider the top storing hive the best as it takes less labor to run it. Tiering up is important to prevent swarming, as it gives room just where it is most needed and will be the soonest used, and I wish to say here that I consider it would have been an utter impossibility to have run my bees with as little swarming as I did this season without tiering up. It is important not to use too large a brood chamber. The hives with large brood chambers generally swarm soonest with me, generally use 7 frames 10x17 inside for side-box hives, and 8 frames 8½x17 for top storing hives. It is very important to prevent swarming that bees should be wintered so as to come out strong and healthy and breed up early without dwindling so as to take advantage of the first yield of honey and go into boxes before hot weather, and once in the boxes, with our system of tiering, we can keep them right at it, so that the most of them will never have time to get up swarming fever, provided the yield of nectar is good and continuous, and this latter is the most important point of all, without which all the others are nix. To have it just right, the flow of honey must be abundant and come right along without a break, with occasionally a shower to keep the honey from getting too thick, as they will make wax much faster on thin honey than on thick.

The wintering and breeding up in spring can all be done satisfactorily by packing with buckwheat chaff, after the plan I described in the *Bee-Keepers' Magazine* for Dec., 1875, provided the bees are in frames nearly or quite 17 in. long, and they have healthy diet. In frames 12 to 14 in. long they generally dwindle more or less with me. One of the most prolific causes of rais-

ing the swarming fever, that has fallen under my observation, is disturbance or handling brood in swarming time. This work of handling brood should all be got along with before June and after the boxes are put on, the brood nest should not be disturbed till after swarming time, unless they should swarm out. Another cause of swarming is spreading the brood nest in May by inserting empty combs between the brood. If stocks are prolific they should be strong and early enough to spread their own brood as fast as necessary. If an empty comb is inserted between brood in such a stock they will fill it with eggs in 24 hours, and it will all hatch at once, making too many bees of the same age, thereby crowding the hive and getting up the swarming fever in consequence. Another cause of swarming that we can't control is an unsteady yield of honey caused by bad weather confining the bees to the hive several days at swarming time, they fill the hive with brood and feel their crowded condition. To recapitulate, preventives—shade, ventilation, abundant box room, tiering up, small brood chamber, early breeding and steady yield of nectar. Causes of swarming fever—disturbance by handling brood in swarming time, too much spreading of the brood nest in May and June, and bad weather causing an unsteady yield.

I wintered 20 stocks in a bee house and 18 in packing boxes out-doors; those in the boxes eat less honey and lost less bees than any I ever saw wintered, although 8 of them were light stocks made up from queen rearing nucleus. My first swarm was from one of those. Still I can succeed with the house apiary, have wintered in it for 3 years without losing a stock, and have wintered in packing boxes for two years without loss, and think they breed up faster early in the latter. Through the summer season I expect to get about ten stings in the bee house to one out-doors, that will be about the average where these large, non-swarming stocks are used, as boxes cannot be handled in the bee house with anything like the facility that they can out-doors, where you can get at your hive on all sides. Had five stocks to swarm from the bee house, six if we count one that lost the old queen and swarmed out when the 'young queen came out for her bridal flight; and had 5 to swarm from the 18 out-doors. I boxed the 38 stocks and two swarms and have made an increase of 4 to the present time. The 40 stocks averaged about 100 lbs. of white comb honey, that is finished and taken off, and there was a good deal left in an unfinished condition, some of it nearly finished. They got through on the white the 25th of July, from that time to Aug. 5th they did nothing apparently but kill drones. They are now working slowly on buckwheat, but if this heat and drouth holds, as the appearance indicates, it will be a short job.

Took 46 finished boxes (our boxes weigh when finished nearly 4 lbs.) from the best stock; they have 20 on the hive, some nearly full of comb and some partly sealed. From some have taken from 30 to 42 finished, and from others less. Two that lost their queens in June, I managed to keep along by giving them brood from those that swarmed out, so they finished about 70 lbs. each, but had to extract their brood combs once. Some think it better to hive the swarms and put on boxes, thinking they will get more honey from the two than from one on the non-swarming plan, accordingly I hived my first swarm on June 12th, put on the boxes the 13th, and they took right hold. About 5 days from the 12th gave them 4 combs with brood from another stock; gave unfertile queen to old stock, took 13 finished boxes from swarm and 10 from old stock, making 23 in all, of course I have another stock, but had enough before. J. P. MOORE.

Binghampton, N. Y., Aug. 9, 1886.

[Many thanks, friend Moore, for so full and satisfactory a reply to our inquiry. Some of your suggestions are quite new to us. In this connection it may be well to mention that the late Adam Grimm made a strong point of ventilation at the time of working in boxes. His plan was to put on boxes that did not entirely cover the frames and then block up the back end of the cover.

The many kind words spoken of our JOURNAL are very grateful, but please don't judge too uncharitably those editors who are interested in the sale of articles that come in the line of bee-keeper's supplies. We think some good, at least, is done by it, and can only wish that all editors who are interested in such sales may be honest enough to recommend only that which is good, whether it may be to their own private interest or not. It seems almost a matter of necessity that the publisher of a bee-keeper's medium shall do more or less toward providing for the wants of his patrons, as constant calls are made upon him to accommodate in that way, and we think it rather fortunate for THE AMERICAN BEE JOURNAL that the publisher and editor are not one and the same person; as the publisher, Mr. Newman, may do what he pleases toward furnishing supplies (and sometimes he has done so at a loss to himself) without in the least influencing any opinions expressed in these columns editorially. The long experience of Mr. Newman as a publisher gives him an advantage that he would not have if he had spent all his time working among bees or writing editorials.—ED.]

For the American Bee Journal.

Comb Guides.

There has been a great deal said of late about artificial comb or comb foundation. I have never seen a sample of it, but from what I have been able to gather from the discussions, I have come to the conclusion that the most useful and practical comb foundation is a simple wax comb guide, say one inch deep, and full length of top bar to be pressed in place by a die worked by a suitable lever. I think such a machine could be constructed at a trifling cost, and be made a source of profit both to the manufacturer of the machine and to the apiarist,

who by the use of the machine would be able to start all the combs for the bees exactly in the centre of bar, and straight.

I make the above suggestions hoping that some of our bee-men who have the time and talent, will give it a trial and report results. If such a machine comes into use I want one, for I am of the opinion that with such guides very little care will be required to ensure straight combs. J. W. DUNN.

Corpus Christi, Tex., Aug. 21, 1876.

[We think after you have seen them you will prefer inch strips of the foundation as guides, if you do not prefer using more.—ED.]

For the American Bee Journal

S. W. Ohio Bee-Keepers' Meeting

The second meeting of the South-Western Ohio Bee-Keepers' Association met in Lebanon, O., Sept. 9, 1876.

The discussion of questions and a general exchange of ideas was the principal feature of the day. One member wished to know the name of a plant he found in his neighborhood, on which the bees worked from early in the morning till after sundown. Upon examination several pronounced it to be Carpenter's Square, and all agreed that it was a very valuable honey plant.

The question was then asked, "Will it pay to use the extractor?" Those that had tried it were much in favor of it, while others had seen it used and thought it a good thing.

"What is the best method to get worms out of box honey?" was then asked. Some of the sufferers had tried examining it where it was in small frames, while others had tried brimstone, having to use it 2 or 3 times, if used immediately after smoking the honey would taste of it, but the taste would soon pass off.

"How do worms get into the boxes?" was then asked. One member had seen moths in the tops of the hives; one thought the eggs were carried in from the flowers; another thought the bees carried them there on their feet from where they were laid on the bottom board. A temperature of 18 deg. above zero was said to be low enough to kill them.

In preparing bees for winter, some fed when necessary a syrup of sugar and water in the proportion of about 8 lbs. of sugar to 2 gallons of water; one used molasses, and another had tried Sorgo molasses, but without success.

The best protection of the bees, was for the most part, some absorbing material on top, while some put an extra box around the hive and packed straw in the space between; one was intending to use Finn's patent hive.

Several had tried wintering in the cellar—temperature a few degrees below 40—but most of them thought out-door wintering best for this climate. A few remarks were then made on introducing queens to hives with fertile workers. One plan was to remove the hive to a new place and let the bees all fly back to the old stand, and as the fertile workers would remain they could be destroyed and the combs be returned to the bees, when a cell or a frame of brood could be given them. One member had been very successful by introducing a sealed queen cell, he had taken the trouble to take the frames out of a hive, one at a time, and by watching them long enough he had caught three bees on one frame in the act of laying eggs, and had caught as many as ten in one hive, with the aid of a glass he had counted 40 eggs in one cell.

On motion, the Society then adjourned to meet at the same place Feb. 14, 1877.

Bethany, O. W. S. BOYD, *Secy.*

For the American Bee Journal.

Transferring Staples.

I have a plan for transferring that differs from any I have read of, and I will give it to you. There is no patent on it that I know of. Instead of splints or twine or thorns I use wire staples and find them very convenient and about as cheap as anything. I have a pair of nippers with a cutter in them, I just take a small wire and cut off pieces the proper length to make the staples about two inches long and just wide enough to go over the frame. Bend them in shape with the nippers, have a lot of these ready, and when I get the comb fitted into the frame just slip on as many of these staples as necessary and the work is done. Try it anybody who will and you will find that it beats splints, twine, or thorns all hollow. JACOB COPELAND.

Posey Co., Ind., Aug. 16, 1876.

Mo. Valley Bee-Keepers' Meeting.

We have just received from the Secretary, Mr. W. G. Smith, the following report of a meeting held last May, from the columns of a St. Louis paper:

The Missouri Valley Bee-Keepers' Association met at the office of the state board of agriculture in the Insurance building, corner of Sixth and Locust Sts.

The Hon. John Monteith was invited to preside in the absence of the president of the association—Lieut.-Gov. Colman.

After the reading of the minutes of the last meeting by the secretary, W. G. Smith, and the disposal of some other business, the chair called on the gentlemen present to give statements of their experience in bee-keeping.

He said he had seen a number who intended to be present at this meeting, but he supposed in consequence of the lateness of the season and the few bright days for business they had been detained at home; another reason was that the day was devoted to school meetings throughout the State.

Mr. Albert T. Williams, of St. Charles, stated his experience with bees. It had been a poor season for bees, but his success in wintering was rather good. He wintered his bees in the cellar, and for saving honey it was economy. He would not allow any obnoxious substance in the cellar, such as cabbage, nor anything sour like a barrel of vinegar. He had about 100 colonies of bees. He kept the Italian bee and had no use for other kinds. He procured the Italian bee 6 years ago. He raised bees solely for the the honey, and was not a queen maker. In the process of substituting the Italian bee he removed the old queen and placed the

Italian queen over the comb. He had Italianized 13 colonies in one day. Care is required in removing the dead queen out of the way as the bees might cluster about the body. In one case the head and abdomen of the queen were six feet apart when large clusters settled on the disjointed remains. They will cluster even about a leg of deceased royalty, and the safety of the new queen depends entirely upon the removal of the old queen. His preference was for hives 14½x9 or 10 inches. He had found his bees profitable. He had used the extractor, but he found a prejudice against the use of honey prepared by the extracting process. But when it is known that honey in its purest form was obtained in this way he thought it would be preferred. He could see no objection to candied honey.

Mr. A. W. Windhorst, also of St. Charles, related his experience. He had good success with Italian bees. The honey last season, owing to the shortness of the sweet clover crop, was furnished mostly by Spanish needles and smartweed.

The season was too wet for sweet clover.

Mr. Thomas Parker, of St. Louis, gave his experience at some length.

Mr. W. G. Smith, also of St. Louis, said he commenced keeping bees 15 years ago, for profit and experiment; has had at different times from 10 to 40 colonies. He found, on the whole, that it was a very profitable industry for Missouri. He thought more of our people ought to go into the culture of bees. An acre of ground it was estimated would produce from 15 to 20 lbs. of honey. He estimated that St. Louis was capable of supporting 1,500 colonies where now there were only from 300 to 400 colonies. There was the blue grass, the forests and Shaw's garden to draw the nectar from. He entered into a close estimate of the yield and the profits, showing that bee-keeping would pay from 25 to 30 per cent. on the investment, but the bee cultivator must understand it; he must have a taste, a love for it. It is like other business. Nine-tenths of those inexperienced in the business who go into it fail. It requires work, hard work, and especially a practical knowledge of wintering bees.

Dr. Petzer said he commenced some 5 or 6 years ago with bee on the brain. He experienced considerable trouble in wintering his bees. He had buried them in the ground and in the cellar, but he found the nearer he conformed to nature the better. He described various hives used, and objected to a cellar.

Mr. Smith said he favored a dark cellar well ventilated.

Other gentlemen also gave their views.

Mr. C. V. Riley then gave his views on the question selected for discussion at a previous meeting—Do bees make or gather honey? Mr. Riley said he was fully convinced that bees make honey. Honey as we find it is a manufactured substance. We find in the calyx of flowers nectar, not honey. The bee laps up the nectar, it is taken into the stomach, digested and regulated in the cell of the comb. In this connection the professor gave a scientific description, illustrated by a drawing of the hymenoptera, to which the bee belongs.

He then took up the next question—Whether bees injure fruit?—and said he was satisfied from direct observation that bees do injure fruit, and he thought that a man should not increase his stock of bees at the expense of his neighbors' fruit.

The secretary read an interesting essay from the South, giving an analysis of honey and nectar, and tending to prove the affirmative of the question, that bees make instead of merely gather honey.

Other essays were read by the secretary, and after some other business the meeting adjourned.

Do Bees Make or Gather Honey?

A PAPER READ BEFORE THE MISSOURI VALLEY ASSOCIATION.

Gentlemen:—At the organization of the Missouri Valley Bee-Keepers' Association, the secretary and treasurer of the association were instructed to solicit essays upon practical subjects, to be read at the next meeting which is to take place on the 4th of April, 1876. As I have been experimenting and making researches on one of the subjects I thought I would give you the result.

In taking up the subject, "Do bees make or gather honey?" I will not try to prove that bees make honey, but that they gather a sweet matter—nectar—from flowers and that this matter is transformed into honey; and my only aim in writing this will be to try to raise a serious interest on this too much neglected question. Though this question may not be of interest to a majority of bee-keepers, it is nevertheless of great utility in apiculture and might have in practice very important consequences.

Apiculturists and naturalists supposed, and suppose yet, that honey has the same composition as the nectar of the flowers; and in many European bee-books it is stated that the bees merely gather the honey and deposit it, without alteration, in the cells where it only loses water. In presence of the confusion and contradiction existing at present on the matters gathered and produced by bees, it is necessary in order to arrive at a decision, to make a chemical and physiological statement of the production and composition of honey. In nearly all the flowers in which fecundation is accompanied by the intervention of insects, there are organs, named by botanists *nectaries*, secreting a sweet liquid matter, which is generally known as nectar. It is this nectar that the bees gather to produce honey. Now we will see that nectar and honey are two distinct things, and of a different composition, and that the bees cause the nectar to undergo a chemical transformation to convert it into honey.

Mr. Braconnot has chemically analyzed the nectar of over 30 species of plants of 25 different families, and he has found them to be of about a constant composition. He says that the nectar is always identical with itself. It is a colorless and limpid liquid of a density little superior to that of water. It does not contain, in general, traces of acid, it is a neutral body, and blue and red litmus paper is without action on it. He represents the composition of nectar as follows: cane sugar (or saccharose), 13; uncrystalizable sugar, 10; water, 77—total 100.

He has found no trace of mannite nor glucose. Now, it will be seen below, that honey contains principally an excess of

glucose, some mannite and very little or no cane sugar. Lowitz was the first, in 1792, who found out that the sweet crystalizable matter found in honey was not cane sugar. Proust,in analyzing some candied honey,has shown the identity of this crystalizable sugar with grape sugar, which he had discovered in the fruits—glucose. Guilbert has placed in evidence the presence of a large proportion of uncrystalizable sugar to which he gave the name of "sugar of honey." Later, Guibourt has found some mannite in honey; and more recently Soubeiran has had recourse to optical analysis to separate the different sugars which are found in honey. M. M. Dubrunfaut, Roders and Calloux have completed by their analysis the preceding researches. Mr. Calloux gives the following as the composition of field honey: glucose, 45.10; uucrystalizable sugar (or mellose), 43.95; water, 7.70; waxy matter, 1.15; nitrogenous and acid matters, 2.10—total 100. As honey made on the mountains is a little different, I also give an analysis made of honey taken at 3,600 feet: glucose and cane sugar included, 56; uncrystalizable sugar or mellose, 30.4; water, 8.5; mannite, 1.9; waxy matter, 0.6; nitrogenous and acid matters, 2.6—total 100.

As we see, by the analysis given above, honey is a mixture in variable proportions, of a certain number of definite organic compounds. In its most complete state it contains glucose, uncrystalizable sugar—mellose, some water, mannite, cane sugar, an acid, a greasy coloring matter, and some nitrogenous matter which comes from pollen. I think it would be well to give some of the principal properties of some of the bodies which enter into the composition of honey, and will try to explain as much as possible how the transformations take place. First we have glucose which is a crystalizable sugar; it ordinarily presents itself under the form of small, white,compact,agglomerated crystals. It is found in grapes and in different fruits. The most economical method of obtaining it is by acting on starch or lignin with diluted sulphuric acid. It is three times less soluble in water than cane sugar, and its solution at equal concentration is three times less sweet.

Mellose or uncrystalized sugar is a liquid sugar which does not crystalize. According to Braconnot the uncrystalizable sugar of nectar is, by its properties, distinct from the uncrystalizable sugar of honey. Therefore it must have undergone an *isomeric* transformation to produce either mellose or glucose which are found in honey.

Mannite is a body which is naturally found in mauna. As it has been ascertained that mannite is a product of the viscous fermentation of complex saccharine mixtures, we see that it is not necessary the bees have gathered the natural mannite, but that it might have formed itself subsequently in honey. Mr. Linnermann has obtained mannite by combining hydrogen with glucose. I will mention, nevertheless, that mannite is most generally met with in mountain honey. The presence of a free acid has been ascertained in honey. It is by the influence of this acid, supposed to be identical with the acid substance found in the bees, that the transformation of cane sugar of nectar into mellose and glucose might have been caused.

It is an established fact that if a diluted acid is made to act upon cane sugar, subsequently grape sugar is formed. It is natural to suppose that an analogous transformation, under the influence of the acid principle known to exist in the bees, has changed the cane sugar of the nectar into uncrystalizable sugar. It is natural to come to the conclusion that the bees gather the nectar from flowers and that this nectar in passing in their body, under the influence of agents not well recognized, undergoes a change and comes out in the state of honey.

We are well aware that the bees takes the nectar from the flowers with its bill and that it is conducted by this organ into the mouth where the tongue pushes it into the æsophagus, which in its turn makes it pass into the stomach. When its stomach is full of nectar the bee returns to the hive and disgorges it into the cell. It is supposable that it is during this time that the acid of the bee mixes with the nectar and some of the transformation takes place. We have effectively seen above that the composition of honey is essentially different from that of nectar. The nectar contains more than half of its sweet matter in a state of cane sugar, while this sugar, when present in honey, is found but in a very small proportion.

In short, glucose don't exist in the nectar and it is found in large proportion in honey. I have fed some bees with a thin syrup made of 25 parts of crushed sugar and 75 parts of water, and after it was evaporated and capped by the bees, extracted it, and though it was perfectly neutral when fed, it had then a slight acid reaction, and contained a large proportion of uncrystalizable sugar and could obtain but a very small proportion of crystalized cane sugar. I fed them also with a syrup made of equal parts of sugar and water colored with cochineal, and after it was capped, extracted it and it it was very much lighter in color.

After the experiments and the chemical analysis given above, I have no doubt that it will be easily seen that the bees effect a real chemical change to produce honey from the nectar; and this process is one which appertains to animal chemistry,a species of assimilation, elabration and excretion of which we have so many other instances in the cell functions of glands in the animal economy.

This is, indeed, the old views, for Lord Bacon says of the bee: "*Haec indigesti e floribus mella colligit, deinde in viscerum cellulis concoctat maturat, iisdem tamden insudat, donec ad integram perfectionem perduxerit.*" PAUL L. VIALLON.

Bayou Goula, La.

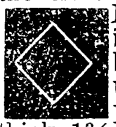
The Best Hive for all Purposes.

A PAPER READ BEFORE THE MISSOURI VALLEY BEE-KEEPERS' ASSOCIATION.

"What is the best hive for all purposes?" In what I shall offer I hope I may be able to throw some light on the other question—"the best mode of obtaining box honey." I will try and give you a description of the hive that I use, and I begin with the frame, which is the most important part of any hive. This frame is here known as the Bingham frame, and is the invention of Mr. T. F. Bingham, of Abronia, Allegan Co., Michigan, and in justice to Mr. Bingham, I must inform your convention that he holds letters patent on this frame. But its advantages are so great that any bee-

keeper can well afford to pay him liberally for the right to use it. I would here say that I am in no way interested in this frame personally, and write only in the interest of bee-keepers generally.

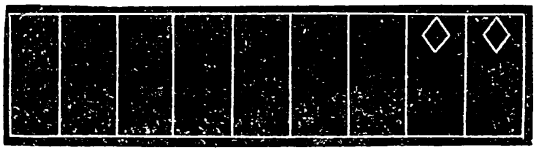
The top bar of this frame is a square stick of wood ¾ in. square, and when used in the hive one corner is uppermost, thus:



Mr. Bingham uses them 21 to 22 in. long. I use them 20 in. long, but were I to start anew, I would use them 24 in. long. The end pieces of the frame are ⅜ inch thick, 1⅜ or 1½ in. wide, and 6 inches long. There is no bottom piece to the frame.

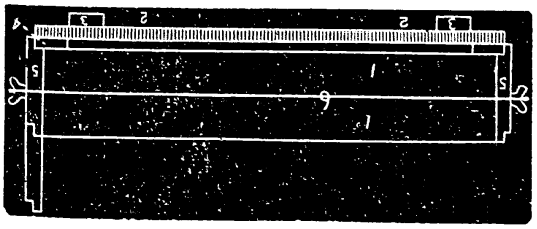
The frame looks thus:

We use from 8 to 12 of these frames in a hive, 10 frames are ample for a very good swarm. The ends being 1½ in. wide stand close together when in the hive, and really make the side of the hive thus:



The diamond marks indicating the ends of the top bars, by which it will be seen that the bees have ample space to pass between the top bars to the surplus boxes. Having finished the frames I will proceed to the rest of the hive. I have varied my case from that used by Mr. Bingham, and as I prefer it, will describe it.

Here is a rough draft of the front of the hive, without the cover.



Figures 1 indicate the front board which is 2 in. longer than the frames over all, that is if your top bar is 20 inches, and your end pieces ⅜ in., this would make the frame 20¾, so this front board would be 22¾ long. 2, 2, indicates the edge of the bottom board; 3, 3, are the cleats to which the bottom is nailed; 4, 4, are ends of ⅜ in. thick strips nailed on top and at each end of bottom board, these strips raise the frames and front board ⅜ in. from bottom board, and makes the entrance for the bees. The back board is precisely like the front board, so there is an entrance front and rear, but in practice we generally (except in warm weather) close the rear entrance by a spare strip sawed off the proper length; 5, 5, represents the ends of the side boards, and 6 is a rod of iron with thumb screws at each end to hold them together, precisely like the end boards of a common sugar box.

These sideboards are 6½ in. wide and rabbeted on each edge as represented, and are as long as the bottom board is wide, say 20 or 24 in. Now this box screwed together with the requisite number of frames makes the hive proper. But the ten frames will not occupy all of the bottom board, so that the back board of the hive must be crowded close up to the frames, and by turning the thumb screw will remain them as tight as if nailed, but can be instantly loosened by loosening the screws. When you do not want boxes on the hive the cover can be put on and you have a hive complete. I always use a cloth over the frames so that the cover does not stick when being removed. Now when you wish to put on honey boxes, remove the cloth and put them directly on the frames—do not use a honey board. Get your brood and surplus boxes as near together as possible, but we have no case for the honey boxes. To have this, put up another box with the rods and screws exactly like the lower one for the hive proper, and it will fit like a glove, the rabbeted edges of the side boards holding it in place, and so on up, any number of stories you may desire.

I may not have made my description plain, but I think any of you with a mechanical turn of mind can get the idea. Its advantages are that it is simple and cheap, absolutely free of gimcracks and traps, yet possessing all the real requisites of a first-class hive. It will be seen that only two kinds of pieces are necessary for the case—side boards and end boards. Of course you must have a bottom and top. The top is any plain cover that will project over all and which is water tight.

No hive in the world can beat them for box honey, for the reason that you can get the brood and honey boxes so near together. I do not speak at random, I know what I am talking about. Hundreds of these low hives are in use in this vicinity, and they are fast driving out all other hives, and when they become generally known the name of their inventor—Mr. Tracy Flynn Bingham—will hold a place among apiculturists, not inferior to Quinby or Langstroth.

JULIUS TOMLINSON.

The Special Correspondent of the London Times says it would be difficult to find an apter illustration of the big way in which the Americans do things than that furnished by the "Centennial Newspaper Building," in the Exhibition grounds. Here you may see any one, or, if you like, all of the 8,129 newspapers published regularly in the U.S., and see them for nothing! It is about as cool and agreeable a place—quite apart from its literary attractions—as a visitor to the Exhibition could wish to be offered a chair in. He may at first wonder how, among 8,000 papers, among them such mighty sheets as the New York Herald, he is to get at the small, loved print of his home, thousands of miles away, it may be, over the Rocky Mountains. But the management is so simple that, by consulting the catalogue, or even without the aid of the catalogue, any one can at once find whatever paper he wants. They are pigeonholed on shelves in the alphabetical order of their States or Territories and their towns, the names of which are clearly labeled on the shelves. The proprietors of the Centennial Newspaper Building are advertising agents, the largest in all America—Messrs. G. P. Rowell & Co., of New York. Their enterprise will cost altogether about $20,000, or £4,000, including the building and the expenses of "running" it for six months. The 8,000 odd American newspapers are declared, by the same authority, to exceed "the combined issues of all the other nations of the earth."

Our Letter Box.

Darke Co., O., Aug. 8, 1876.—"The honey season has been a good one in this locality."
W. M. HARPER.

Kosciusko Co., Ind., Aug. 13th, 1876.—"Honey is so plenty that the bees are swarming again. I lost a queen that I bought, swarmed and went to the woods in two weeks after introducing. I found the hive full of queen cells in three weeks."
S. R. WINCE.

Foxboro, Ont., Aug. 14, 1876.—"My bees are doing well. I commenced with ten stocks in the spring. I have now increased to 22. I have extracted 500 lbs. of honey, and have box honey enough to make 600 lbs. this season." LEWIS SARLES.

Henry Co., Ind., Aug. 12, 1876.—"Bees have done well for us this season. I had 21 colonies in the spring; I got 46 good swarms, increasing my stock to 67. They are doing finely now on buckwheat and smartweed." W. N. NICHOLSON.

Oneida Co., N. Y., Aug. 13, 1876.—"In this section we are disappointed in our crop of honey. In June the prospect was good for a large yield, but some report now "not half a crop." Bees have increased, in some cases doubled, and even more, but the surplus is light. Last spring I sold down to 80 stands and have now 156 full stocks—quite a number more than I had last year, and yet not so much honey as then."
R. BACON.

Lansing, Mich., Sep. 4, 1876.—"Our bees doing grandly. Never saw such a yield of fall honey; just pouring into comb. Extractor at such a time is invaluable. Some hives which I purposely left are utterly destitute of brood. Every comb filled with honey. All that I extracted have from 8 to 10 full combs of brood. Those who have not used the extractor please look out for spring dwindling. I would rather the honey would be extracted, even if thrown away." A. J. COOK.

Ghent, Ohio, Aug. 31, 1876.—"This season for bees is the best for surplus honey we have had for a long time in this neighborhood. The weather has been very warm. Have taken 2,000 lbs. comb honey, chiefly in small section frames, and 1,000 lbs. of extracted, and all of the best quality from 40 stands, and their increase. A few very weak in the spring produced no surplus, while others, good and strong, produced from 100 to 150 lbs. of comb honey. I have now 80 swarms in prime order. The honey season is pretty much over, but am yet taking out full frames and replacing with empty ones and Italianizing the hybrids. I have a few in box hives without surplus arrangements that I have made no account of, 3 not at home that are kept to increase from —they did well. Honey sold to date, $150 worth. Price: extracted, 15c., comb, 20 to 25c. per lb. My neighbors' hives that are poorly managed swarm often with melting down of combs and honey. Much success to THE AMERICAN BEE JOURNAL."
THOMAS PIERSON.

Washington Co., Wis., Aug. 17, 1876.—"We have about 750 swarms of bees, mostly Italians. Last spring had about 400 swarms, got about 8,000 lbs. extracted honey, will get perhaps 200 lbs. box honey. They did not work much in boxes this year. They are doing well now for themselves for winter. We have kept bees for about 30 years: for 20 years quite extensively. We find, one year with another, it pays better than anything we know of. Would advise every one properly situated to keep a few swarms of bees, if only for their own use."
J. & I. CROWFOOT.

Washtenaw Co., Mich., July 22, 1876.—"Yesterday and to-day has been very hot: 98 in the shade. The bees, although shaded with cloth shades and with plenty of room in the hive are hanging out, but are gathering considerable honey. I have extracted my first white clover and basswood honey this year, 50 lbs. from one hive. I have managed to keep my bees from swarming more than twice, and the most of them have swarmed only once. I have 2 swarms from which I am trying to get 100 lbs. of box honey each. I took a queen cell out of a hive which had swarmed, and put it in a box. As soon as it hatched, or 2 or 3 hours after, I went to a queenless nucleus and lifted out a frame of comb covered with bees, and put the queen right on the comb among the bees, and then put the comb back in the hive; then I took a frame of brood and honey and put it in another nucleus, and on examining since the brood began to hatch I find 2 and 3 eggs in a cell, the cells are extended, or the caps are raised, something like drone brood. There are not many drones among the bees. What is the matter with them? I think a great deal of THE AMERICAN BEE JOURNAL, and would not keep bees without it. I have gathered a great deal of sound information from it this year. Please answer through the JOURNAL." J. H. MURDOCK.

[The statement is not very clear as to where the brood came from with the raised cells, but it looks like the work of a fertile worker.—ED.]

Cincinnati, Sept. 4, 1876.—DEAR EDITOR: "The honey season is over in this location. As it turned out we had one of the best seasons we have ever had. I took over 5,000 lbs. from 26 hives; had no swarms (that is natural ones), but have made several artificial ones since the honey ceased to come in. During 8 year's experience I have had but two swarms at the same time. Have had from 20 to 40 hives. We work for extracted honey altogether. We have no trouble in selling it here at home for 20c. and 25c. Must say I like THE AMERICAN BEE JOURNAL better than ever. Your manner of commenting on correspondence seems to me so much better than the old way of merely printing a letter and allowing the reader to draw his own conclusions. I have a case in my mind of a correspondent who wrote to the JOURNAL some 5 or 6 years ago, and gave a description of a wonderful moth-proof hive, made of sheet iron plastered over with cement or mortar. Now a modern intelligent bee-keeper with his frame hive just passed such an article by with a smile, but a friend of mine after reading it through thought it was just the

thing and was going to make some of them, but desisted on my advice. Now I thought it would have been much better if Mr. Wagner had told the writer in a kind way how far he was behind the times, and that the moth wasn't the terrible enemy now it once was. In fact, if it wasn't that I am asked so often, "don't the moth bother you," I would hardly think of them. Then they tell how their father or grandfather used to go every morning and raise the hives and brush around them, and advise me to do likewise, as it must be a good thing."

R. L. CURRY.

Outagamie Co., Wis., Aug. 8, 1876.—"My bees are doing well. Have increased from 10 to 28 colonies. Have extracted nearly 300 lbs. Bees are now at work in boxes."

J. P. WHITE.

Wayne Co., N. Y., Aug. 1, 1876.—"Bees are not doing well here. It is too wet. There is but little surplus."

J. I. JOHNSON.

Melrose, Va., Aug. 3, 1876.—"Bees have done well this year so far; not many swarms but abundance of honey. I have 2 queens—mother and daughter—living peaceably together for two months; one producing hybrids, the other pure Italians. The old mother only laying a few eggs. She will play out soon. I have frequently had them live in this way, but not so long as these. The mother and daughter never disturb each other when superseding queen."

R. W. HARRISON.

Sauk Co., Wis., Aug. 18, 1876.—"Bees are gathering tolerably, but are swarming the second time. Aug. 1st they had the swarming fever as bad as ever, and as quick as they were strong enough to work in boxes they would swarm; quite a number have gone to the woods. One swarm, whose queen had a clipped wing, started for a tree 30 rods distant, and then returned. A few days ago I listened for the piping of a young queen, found they were bound to swarm, so I shook all the bees into another hive, and was picking out the queen cells, when all at once they swarmed from the hive I had shook them into. No basswood honey this year, in this section."

W. PORTER.

Chillicothe, Mo., Aug. 25, 1876.—"You request bee-keepers to send you samples of such articles as they may think of interest to the fraternity. I send to-day what I think to be the best frame in use and as simple and cheap as any other. The underside of the top bar is beveled the entire length, giving it two important advantages:—First, the bevel edge, especially if rubbed with a piece of bees wax, makes a good comb guide. Second, when the projections are hung on hoop iron with saw-tooth notches the comb will be the exact distance desired from centre to centre, not only at the top but at the bottom also, for the bottom of the frame is held in its place by small wire staples in the end of the hive. The lower end of the upright stiles being tapering allows the frame to slip down between the staples without jogging. The inner bar being strong (⅜x⅝) makes it right for the use of the zig-zag transfering wire which accompanies the frame. The object in the zig-zag of the wire is to give it spring so that any number may be used without loosening others; also to enable one wire to hold the edges of two pieces of comb. In using these zig-zag transferring wires it is not necessary to lift out the frames to take them off. Take the top end between the thumb and index finger, give it one-fourth turn and lift the wire out. I have tried every contrivance I have ever heard of and never found anything to give complete satisfaction in holding comb until I used this wire, and it was not satisfactory until I invented the zig-zag to it some five years ago."

J. W. GREENE.

[Tastes differ very much and there are perhaps not a majority who would prefer frames at fixed distances. If comb foundation comes into general use the underside of the top bar will be flat.—ED.]

Winthrop, Iowa, Aug. 30, 1876.—"As there seems to be considerable discussion in regard to "fertile workers," I will give you my experience. In hive No. 1, I had failed in introducing a queen, and the bees started queen cells from larvæ, there being no eggs in the hive. These cells (three in number) soon hatched, and a few days after I found the hive under the management of a "fertile worker." My idea is that the larvæ being too far advanced to raise a perfect queen, nevertheless by means of royal jelly, etc., raised a fertile worker. In hive No. 2, I had introduced a queen which proved to be a drone layer, who soon swarmed leaving in the hive a great many queen cells of which I destroyed all but two of the finest. Shortly after these hatched, the hive was in possession of a fertile worker. Would like to hear the experience of others through the columns of the AMERICAN BEE JOURNAL."

C. A. FREDERICK.

[We never before heard of a colony swarming which had a drone layer. Is there no possibility of mistake?—ED.]

McHenry Co., Ill., Sept. 1, 1876.—"I believe I have never written anything for the AMERICAN BEE JOURNAL. I have read a great deal of the writings of others in it, and have given nothing in return. I have kept more or less bees for ten years. I commenced last spring with 38 stocks and now I have 85, all in fine condition, excepting one. This has been an exceptionally good season, both for bees and honey. I allow natural swarming altogether, but I doubled a great many of my smaller swarms and put back a good many more. Have taken over 1,100 lbs. of box honey, and shall get 300 or 400 lbs. more, all put up in boxes 6x6x2½ in., glass on both sides, and each box holding a comb of 2½ lbs. weight. I winter my bees in the cellar, in tiers on shelves one above the other, and they do well in that shape and occupy less room than if spread out. Will you, or some of your correspondents tell me how many stocks are kept in one place, and can be kept with profit?"

J. L. ANDERSON.

[The number of stocks that will do well in one apiary depends of course somewhat on the locality. Adam Grimm kept about 100 in each of his apiaries, and perhaps in most cases that will not be far out of the way as a limit.—ED.]

Chickasaw Co., Iowa, Sep. 4, 1876.—"I want to sow an acre of mignonnette in the spring. How much seed should be sown per acre? Where can it be found, and at what price? I sowed some Alsike clover 2 years ago and pronounce it a No. 1 honey plant. Basswood, white clover and buckwheat are our best sources for honey in this section. Basswood only lasted about five days this year. The hot weather blighted it very bady. I had 14 stands to start with; have increased to 28 strong stands, and taken 900 lbs. of honey from them—200 lbs. box and 700 lbs. extracted."

E. J. SCHOFIED.

[Mignonnette seed can be obtained at this office at $1.50 per lb. We do not know the number of pounds per acre, but as the seed is very small, possibly 5 pounds would do. Can any one give the number of pounds per acre?—ED.]

Erie Co., N. Y., Sept. 6. 1876.—"Can two small swarms be united for wintering? If so, how can it be done? Both are Italians, old swarms from last year. Both have queens, but they did nothing this year."

CHARLES HACK.

[Leave them till the time of putting into winter quarters, then put into one hive the frames from each containing the brood and bees. Being in a nearly dormant condition, if the transfer is quietly made they will not quarrel and by spring will have acquired the same scent. Of course one of the queens will be killed.—ED.]

Grand Meadow, Minn., Aug. 18, 1876.—MR. NEWMAN: The comb foundation was received some time ago. Am using it successfully. I believe it is a benefit even at $1.50 per lb., but hope it may soon be within the reach of all. I send you two flowers that grow on our prairies by millions. Are just coming in bloom now, and my bees are working busily on them. These flowers bloom until frost. Will you please answer telling me their worth. I think they are good, or why should the bees work in almost endless numbers upon them. I call them a spieces of golden rod, by the description of flowers in Quinby. No. 1 grows from 1 foot to 18 inches high. No. 2 from 18 inches to 2 feet high, and they bloom together. No. 1 lasts a little longer than No. 2.

Aug. 16, I had a pure Italian swarm of Mr. Ingmundson and set them among my black swarms, at noon the same day, after moving them by stage and rail 26 miles. At 3 P. M. they were working admirably, carrying pollen and honey, and yesterday at 3 P. M. (17th inst.) I found my Italian workers 2½ miles from home, working on a tall gumweed (I call it) with a flower like a small sunflower, similar to button ball flowers, only it grows about 4 feet high. I was surprised to find my bees so far from home on the second day, but I know they were mine as there are no Italians but mine within 25 miles, or tree large enough for bees inside of 4 miles. I shall endeavor to Italianize the rest of my bees, believing they are far superior to blacks. Have been troubled with worms in my black hives. Mr. Ingunmdson has 76 swarms and is doing finely. He has extracted over two barrels of honey already. To those who say the Italians are so much better natured than the black bees, tell them they have not become acquainted with the genuine article yet.

C. F. GREENING.

No. 1 is *Solidago Rigida*, No. 2 *Solidago Nemoralis*. These are two of our many species of Golden Rods which are very valuable as honey plants. Our bees have been gathering from golden-rod since August 10, and very plentifully too. The honey is darker than first quality, but much lighter than buckwheat, and is pronounced by all here as excellent in quality. Our president pronounces it first-class in flavor.

I planted a large bed of migonnette the first week in May. From the last week of June till about the second week of August the bees were constantly gathering from it. From the middle of July—after basswood—till Aug. 10th our bees were comparatively idle. Several acres of migonnette would have kept them busy. Our black mustard was sown the second week of May. Commenced to bloom the middle of July and is not quite gone now. Has been covered with bees. This fills the time of usual dearth. Borage commenced to bloom July 1st, and is still in bloom, constantly covered with bees.

Tell your subscribers to send good flowers, good leaves, and to state height of plant and locality. Just a short flower is not always sufficient for analysis.

Sept. 13.—The second lot of plants sent by Mr. Greening are species of aster. As there are about a score of species in the U. S. the specific determination would be quite difficult, especially as the flowers would need to be soaked, and then subjected to a most careful and painstaking scrutiny. Still this would not deter me, if it were of any practical importance to know the exact species. All of the asters are very valuale as honey plants, and so Mr. Greening may rest assured that with favorable weather he will secure great quantities of that for which the apiarist thirsteth. I speak of weather for true it is that though very wet weather will give much bloom, yet it as effectually cuts off the honey.

We had a very wet June here, and not enough white clover honey for a sample. We have had a dry fall, though sufficient early rains to give us plenty of flowers, and I never saw such a rich yield of honey. Why if there is anything in development by use, especially if Lamark's view of evolution be correct, that development is promoted by desire. Our bees must have honey stomachs that are fairly stupendous, and by the way the honey comes in I verily

believe they have stretched. Why one colony has already made seventy pounds of comb honey besides about twenty pounds of extracted—just removed to give the queen a chance. All, too, from these same asters, together with golden-rods, sunflowers, etc. A. J. COOK.

Corpus Christi, Texas, Aug. 21, 1876.—"Bees have not done so well in this section as last year, owing to drouth, but they have paid a good profit. I have sent you several subscribers this year and will send more." J. W. DUNN.

Pointe Coupee, La., Sept. 9, 1876.—"I shipped my honey to New York this week. Increased 60 per cent.; had an average of 15 combs built to the swarm, and obtained an average of 70 lbs. of extracted honey to the hive. All common bees in Langstroth hives." W. B. RUSH.

Shelby Co., Ky., Sept. 12, 1876.—"I had 22 stands of bees last spring. Sold 2 in April, leaving 20. Obtained 1,700 lbs. of comb and extracted honey and increased to 56 stands. I sell my honey at 25 cents per lb. Who says bee-keeping is not profitable? Of these 56 stands I sold 6 at $15 each. I have a fine stand of bees that has two queens; one of them has no wings; they both lay eggs and live happily together. Can you explain that?" FR. KRUEGER.

[Many cases, especially of late, are reported of two queens in one hive. Usually, if not always, the old queen is about to be superseded.—ED.]

Tioga Co., Pa., Sept. 8, 1876.—"Bees have not done as well here as I thought they would at the commencement of the season. We had so much rain during white clover blossom that the honey was very thin, and the bees did not cap it over till after buckwheat commenced to bloom; and then they filled up the cells with buckwheat honey and capped them over, making half the entire crop of honey in this section mixed and the other half, buckwheat. On account of the drought of the past two months buckwheat did not yield half the usual amount of honey, although there was double the usual amount sown in this section, and the grain is even a poorer crop than the honey." JOHN ATKINSON.

Chillicothe, Mo., Aug. 17, 1876.—"On Monday afternoon I took 50 lbs. of white clover honey from my prize colony of Italian bees, No. 47. This makes 175 lbs. it has given this year up to the middle of August. Besides this good yield of honey it has been allowed to cast one swarm; the old queen, "Betsy Ann," I sold to Dr. Dice, of Dawn, for $5. If the weather should be reasonably fair from this on, I shall get at least 125 lbs. more, making the enormous yield of 300 lbs. of honey, a good swarm, and a $5 queen from our colony in one year. I have a number of other colonies that will turn out about as well and maybe better than "47." I had over 100 lbs. from each of some new colonies made about June 1; I expect to get as much as 200 lbs. of nice box honey from a good many hives; but the largest yields are produced from two-story hives with the extractor." J. W. GREENE, M. D.

Piatt Co., Ill., Aug. 22, 1876.—"I started last spring with 28 stocks; increased, mostly by natural swarming, to 62, and sold three swarms. Young swarms are generally full, one-half of them gathering surplus. I have had about 600 lbs. of comb honey, and expect to take enough more to make 1,500 lbs. this season. White clover is our main dependence here. We have some basswood and fruit bloom in the spring. In the fall we have smartweed, spanish needle, goldenrod, buckwheat, and a white blossom that they are now at work on. I don't know its name. It grows about 3 feet high, a single stem with top like flax. It grows exclusively in the timber and affords a good supply of honey." J. KEENAN.

Posey Co., Ind., Aug. 16, 1876.—"In April last I took charge of 11 colonies of native bees, 3 in the Wilkinson hive and 8 in the old fashioned gums, and transferred the 8 into the W. hive in April, while fruit trees were in bloom. At the last of May I increased the 11 by artificial swarming (except one that volunteered a natural swarm on Sunday) to 22. From those three that were already in the W. hive I have, up to this time, about 50 lbs. each of nice comb honey. From two of the others, about 30 lbs. each, and from the balance none, for they were very weak in the spring, while those in the patent hives with no better care last year came through the winter strong in bees and full of honey. Our honey season ends with June generally, but our fall honey harvest is about commencing now. I opened some of my hives to-day, and find that they have commenced building in the supers, and if it continues seasonable till "Jack Frost" comes, I hope to have a better report to greet you with, for I have not "managed my bees to death," but have got every one of my 22 hives crowded with the little laborers to gather the harvest in, when it comes. I have not tried the Italian bee nor the extractor yet, but think if I am successful this fall and winter I'll try both next year." JACOB COPELAND.

Old Fort, N. C., Sept. 16, 1876.—"You ask for information about honey plants. Well, I have sown buckwheat for 3 years, and although it always yields honey and pollen, yet I am very sure that any quantity less than ten acres will not make an appreciable difference." RUFUS MORGAN.

Trumbull Co., Ohio, Sept. 18, 1876.—"This has been a good season for this section. Last fall I put 10 stands in the cellar, and left 9 on their summer stands, well packed; one starved in the cellar and one out-doors, and 6 dwindled in the spring, leaving 11. I increased them to 19 (mostly natural swarms), managed on Butler's plan, and I have sold $110 worth of extracted and comb honey, and they are now in better condition than last year. I made a pair of scales last winter and set a hive on them last spring. It gained most on fine days after fruit blossoms till middle of June, when they swarmed but went back. They had on two tiers of boxes (6 each) 6 in. square by 5 in. deep. I took all the brood and honey from the main hive and filled up with empty comb. They gained 10 lbs. the first day, 8 lbs. the next, and 5 and 6 lbs. for several days after; they finished all the boxes and gained weight during August." J. WINFIELD.

Atchison Co., Kansas, Sept. 18, 1876.—"My bees have done well. I have extracted 4,000 pounds from 38 old swarms. I will tell you how much comb honey I shall have, at the close of the season."

C. W. STOKES.

Plain City, O., Sept. 15, 1876.—"My bees have done very well this season, but not as well as they would if my health had been such as to have permitted me to look after them personally. I have 68 colonies, all in good condition for winter."

C. E. SWEETSER.

San Jose, Ill., Aug. 15, 1876.—"During white clover yield, which was a remarkable one in this section, my bees did very well. They are now working on heart's-ease and early sown buckwheat, and they make the yard lively with their busy hum. I expect to return to the East this fall, and I wish to find a good location for an apiary. Do you know anything about Maryland? Whether an apiary could be profitably conducted there and in what particular part? I have thought of the region about Frederick or Hagarstown, but having never been in that State, of course I know nothing about it and wish you could enlighten me. I would like to get near the Potomac, or on some stream emptying into the Chesapeake and not too far from it. The hard, blustering winters with late springs are hard on bees in this western country. I have never yet lost a swarm from this cause when wintered on their summer stands, though last winter, a year ago, I found a few of them considerably reduced. Last winter I lost 7, wintered in cellar. Cause—dysentery—thin, unsealed honey. I had them away from home and they did not not get attention when they should have had it."

"My method of wintering bees is so simple that it is worth at least a trial. In the first place my hives range in length from 18 to 26 inches, with frames set in crosswise and entrance in the side. In putting them into winter quarters I lift out two or more of the end frames and set in two division boards having six inch holes bored in them, these I set close up to the frames, leaving a space in each end of the hive. I then remove 3 or 4 of the strips from between the frames, and spread a piece of old muslin over them letting it hang down over the holes in the division boards. I then fill it all in compactly with any absorbing material—I generally use straw—and close all up in the cap except occasionally a fly hole. I close the entrance up tight except about an inch, and fasten a small piece of wire cloth over that. Should there come a day at any time during the winter warm enough to make the bees restless, but not sufficiently warm to allow them to fly, I simply shade the entrance and they soon become quiet. If it is warm enough I give them a fly and as soon as all have returned, replace the wire cloth. I give them no other protection and have never yet lost a stock when wintered out of doors and treated in this way, but they come out strong and bright as a new silver dollar, in the spring. My hives are particularly adapted to this method of wintering, and it is certainly much less trouble than to carry them all into the cellar or house and out again in the spring, besides two or three airings probably during winter."

O. W. SPEAR.

Van Buren Co., Mich., Sept. 22, 1876.—"Bees have increased well by swarming, but have made very little honey. I shall not have over 200 lbs. box honey from 38 stands. One of my neighbors will have only 300 lbs. from 110 stands."

A. S. HASKIN.

Fairfield Co., Conn., Sept. 18, 1876.—"Bees have not done very well here this season. Have taken no honey since July 15. Have had a very dry season, Average about 50 lbs. to the hive, part comb and part extracted, but very nice, white clover. Have no trouble in selling at 25 cents for extracted, and 30 cents for comb. Have but ten hives, hybrids and blacks."

N. S. KELLOGG.

Marshall Co., Iowa, Sept. 20, 1876.—"Bees have done well here this season; are busy yet. I commenced the season with four stands; increased to ten. Had 2 or 3 swarms to abscond to parts unknown. Will take about 150 lbs. of surplus honey in the comb. With an extractor might perhaps have taken more."

J. C. ARMSTRONG.

Wellsville, Mo., Sept. 13, 1876.—"I have read the BEE JOURNAL carefully for many years, and some things I have read which it is difficult to believe. One thing I will mention, some people in the Southern States, and some here in Missouri, claim that there are two varieties of common bees—one small and quite black, the other variety lighter colored (gray) and much larger. They claim also that the gray is quite, if not altogether, as good a variety for all purposes as the Italian. Now I claim there is but one variety of what we call the common bee;—namely, the black bee of Germany. If there are two varieties of common bees, we want the proof. If there are two varieties, how is it that they have not mixed in a state of nature? I have made a specialty of bee-keeping this season and my only trouble has been prevention of swarming. I did not want much of an increase because I had not a sufficient number of hives on hand, but they would swarm and ofttimes leave boxes of honey on the top partially filled, much to my disgust. I think I have read of all methods adopted by bee-men generally, and the one generally relied on is to open the hives every 5 or 6 days and cut out all queen cells. This is attended with a great deal of trouble, and if there is a better way I would like to know it. I know swarming is hard to control in the far South; it is much harder here in Missouri than in Northern Illinois, but a gentleman who signs himself "Six," Point Coupee, La., (see August No., p. 213) says he controlled the swarming fever on over 50 hives. I wish he would communicate through the colums of THE AMERICAN BEE JOURNAL how he did it. He would confer a great benefit on me, and I think on others."

"Your biography of Adam Grimm is good so far as it goes. But we would like to know something more of his mode or method of managing his bees, wherein he differed from others, and how he made so much money. It only came through two men to me that he cleared in 5 years from his bees $22,000. We would like to follow his example. Would like to know more of Adam Grimm. His was a great success."

JOHN BARFOOT.

Ingham Co., Mich., Sept. 21. 1876.—"I have a queen that insists upon laying several eggs in each cell, even when there is plenty of room. I have counted as many as nine, and in some cells I have found more than one larvæ. She is very prolific and her stock is a large one, having at present 6 frames filled with brood."

GILBERT THRASHER.

[She evidently needs more room still.—ED.]

Henderson Co., N. C., August 21, 1876.—"Bees have done but little good this summer, either in increase or honey. Sourwood was a complete failure this year; the first time I ever knew it to fail. This has been a bad year for Italianizing, owing I suppose to the scarcity of honey and pollen. The bees gathered poison honey in May, I think, from the hemlock; called by some "dog hobble." The swamps in this neighborhood are full of it." R. T. JONES.

Sangamon Co., Ill., Sept. 15, 1876.—"We have an excellent fall bloom, but much of the time it is too cool to gather rapidly. Spanish needle is in great abundance in all available localities. Smartweed very fine. Just as my bees were commencing to gather, a cider mill, 40 rods distant, was put into operation, and I am "out" on my fall expectations; for it was warm when the cider mill commenced operations. I believe my strong stocks will now winter poorly for loss of bees—but "sich is life." This year has been very favorable for stores and increase, so far as my observation has reached." W. W. CURNUTT.

Stanslaus Co., Cal., Sept. 14, 1876.—"Bees are doing splendidly now, making honey. From 28 stocks (with an increase of 30, making 58) have now taken about 3,000 lbs. of comb honey; if they continue as late as they did two years ago, I expect a ton more. I use the New Idea hive with a cap. I use two sizes of frames, 10x12 and 6x12. I like the low hive the best, so far; have but a few of them yet. I have tried plain wax sheets of various sizes and thicknesses, but with no success. If any of your readers wish to try them, tell them instead of glass or soaped cloth as some recommend, to take a thin, soft board or shingle; dress it down smooth; soak in water; then dip in the melted wax, then in water (cool but not too cold, else it may crack), and they can get nice sheets of wax." J. F. FLORY.

Dubuque, Iowa, Sept. 18, 1876.—"I have 2 acres of a hill which is too steep to mow. I want to seed it to some kind of a grass for a cow and bees. What grass will be best for that purpose?" E. CHAMBERLIN.

[Perhaps you can hear from some one in your neighborhood whether alsike would do well; if so, nothing would be better. White clover would be excellent and would almost certainly do well.—ED.]

Caldwell Co., Ky., Sept. 18, 1876.—"Bees are gathering honey rapidly now, but are storing very slowly in boxes. They have filled the lower part of the hive so full that the queen has no room left to lay in."

MRS. V. M. LARKINS.

Plainfield, Ont., Sept. 18, 1876.—"I am a beginner in the bee business, having had only 3 years' practice. I use the Thomas hive. Two years ago I put in the cellar 28 stocks, but only 11 survived the next summer. I got but one box of honey, but increased to 19, all artificial swarms; 5 of these belonged to others, leaving me but 14. Last spring I had 13, one died and one was queenless. I did not double them with other colonies but gave them some brood comb and bees as soon as the weather would admit, and they raised a queen for themselves. We have had just two months since May for bees—June and July. July was very favorable for bees; they multiplied by the thousand. I have taken between 800 and 900 lbs. of extracted honey, and increased them to 30—all in good condition for winter—and one went to parts unknown. My bees are all Italians and hybrids. I like the Italians best, if for nothing less than handling. The hybrids are cross and hard to handle, but the blacks are worse; for when you raise a card of them, they are not satisfied merely to run but they take the keen jump and form themselves in a string on the lower end of the card. I am in favor of the Italians, both for beauty and because they are so quiet. August has been very dry, with no flowers, and our bees are faring poorly now." A. PARKS.

Wenham, Mass., Sept. 16, 1876.—"The season here has been rather poor for surplus honey. The severe drought commencing in May and continuing nearly all summer dried up the white clover, and very little honey was stored during the month of June. About the 1st of August we had the heaviest rains during the summer, in fact it was about all we have had since the middle of May. After that our bees commenced to work in boxes a little. The honey was gathered from a flower found in the swamps called pepperwood. They worked freely on this for two weeks, and the honey was very nice. For the last 3 or 4 weeks the bees have worked on golden-rod and a flower we call the fall or wild dandelion. The honey gathered from such flowers is of a very poor quality and hardly fit for the bees to eat. Our hives are very heavy in stores and well stocked with bees. The weather has been favorable for honey dews—this was gathered from the elm, oak, and some few other trees. The bees worked on them only an hour or so in the morning, before the sun dried the dew from the trees. Honey dealers in Boston are very cautious about purchasing this season. They are expecting honey by the car-load from California, and intend to pay not over 20 cents per lb., and won't pay over 15 cents if it can be avoided. There are some honest men in Boston but the most of them will compel the producers to give away their products if they can. If they get a man "cornered" he has got to sell low. We used to get 35c. and 40c. per lb. for our honey; now the best offer is 20c. Those fellows in Calfornia have raised the deuce with us." H. ALLEY.

Franklin Co., Kansas, Sept. 25, 1876.—"Bees in the open prairie have not more than doubled this year. Since 1st of July strong colonies have stored considerable honey. Still have plenty of forage and will have till frost, whenever that may come."

SMITH TALBOT.

Montgomery Co., Iowa, Sept. 26, 1876.—"I started in the spring with about 60 stocks of bees; have doubled by dividing, and will get about $40 worth from each old stock, mostly box honey." E. D. GODFREY.

Seneca Co., N. Y., Sept. 24, 1876.—"I have 46 hives of Italian bees. They have done well. I have sold about 100 queens."
H. O. WRIGHT.

Oneida, Ill., Sept. 21, 1876.—"Please tell me in next JOURNAL if the enclosed flower is golden-rod?—[Yes—ED.] Our fall harvest is almost a total failure. We have had so much rain that bees did not get as much honey as they ate. Have a few pleasant days now and bees are at work on buckwheat (1 acre), heart's-ease, and Spanish needle; but I do not think they will get any surplus for us." WM. M. KELLOGG.

Barren Co., Ky., Sept. 16, 1876.—"My bees have been gathering honey from buckwheat and smartweed for two weeks. They are doing well, and are a great pleasure to me."
N. M. GREER.

Paoli, Ind., Sept. 18, 1876.—"Enclosed find a specimen of a honey plant that grows here in the woods, and the bees are working on it now. What is it? We never had as good a spring for bees since I have been in the business, and that has been 4 years. Since June the bees have not done much. Can you tell me the best time to sow buckwheat for honey. I sowed on July 1, and I don't think my bees got enough honey to pay for the seed. When the spring opened I had 6 colonies, 5 in good condition and one very weak in May and June. I took from them, with the extractor, nearly 400 lbs. of white honey. I now have 15 colonies—though some of them are small. If they do not stock up soon I will unite some of them. In wintering, of course I will have to take away one queen. Can you tell me how I can keep her through the winter? It is a shame to kill a nice queen."
B. M. LINGLE.

[As nearly as we can make out from the specimen received, the plant is golden-rod. Perhaps you might sow buckwheat a little earlier than July; but some seasons it yields very little, no matter when sown.

We have doubts about your keeping over a queen in any way except in a full colony. A great many have tried it, and we shall be glad to hear if any one has hit upon a plan that has been uniformly successful.—ED.]

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AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, NOVEMBER, 1876. No. 11.

Our Exchanges.

Boil it down! Boil it down!
Give us the new and useful points—
The good—and that's enough!
Boil it down!

BRITISH BEE JOURNAL.

At the annual show of the British Bee-Keepers' Association, Sept. 15-18, we notice that friend Abbott, editor of the *British Bee Journal*, took many prizes for his ingenious inventions—among which we might name: movable comb hives, bee feeders, sectional boxes, and his extractor, called the "Little Wonder."

Mr. John Hunter, exhibited the following American articles: Quinby's smoker; Novice's metal corners, bee-quilt and feeder; Isham's boxes, etc.

George Neighbour & Sons exhibited quite largely and carried off several prizes.

Foul Brood.

"If a hive should be found to contain foul brood, which may be known by the ragged, sunken, and pierced condition of the sealed (?) cells, and by the fœtid nature of their contents, it will be unwise to attempt a cure, for the combs will be worthless, except for the honey they may contain, and the bees being few and old, will not be worth any labor bestowed on their preservation, and it will therefore be good policy (to prevent the disease extending) to give them 'a sharp shift,' either with sulphur fumes or drowning, for where the dire necessity arises, a sudden death is the more merciful."

Bee Food.

"The cheapest and best form of bee-food with which we are acquainted is composed of five pounds of best loaf sugar and two pints of water, to be boiled together, a wine-glass of vinegar and a pinch of salt should then be added, and the whole boiled for a few minutes."

Ligurian Bees.

It will be remembered that on page 241 (September number), while commenting upon an article from the London *Cottage Gardner*, condemning Italian bees, we asked friend Abbott what proportion of British bee-keepers preferred the black to the Italian bees? His answer is as follows:

"The barefaced libel contained in the article referred to is about on a par with the insane assertions made some time since by a positivist named Heddon at the Michigan Bee-Keepers' Association (December, 1875) denouncing bee-keeping as a snare and a delusion, kept up by editors of bee journals, and hive and bee-furniture makers, for their own special profit."

"The man of many assertions who foments trade in England against Ligurian bees, is also deadly opposed to bar-frame hives, and indeed to everything that savors of improved bee-culture honestly carried on. He teaches people how to fill 'shoddy' supers with the contents of the hives called after his own name, than which no others in his opinion ought to exist, and from his dogged persistence in his declarations he undoubtedly believes he is right; and we are content to allow him to enjoy his opinion, and to lead as many others as choose to foliow him. The tide, however, sets in another direction, and improved hives, improved methods of managements, and improved bees, are the order of the day; and for results we will point to the glories of the late Alexandra Show, at the piles of supers, tier upon tier, that dazzled the eye with their beauty, at the magnificent exhibits of the cottagers who, having deserted the 'Pettigrew' system, have come into light and celebrity by aid of the bar-frame principle and the Ligurian bee. Can anything in the annals of the skep compare with the results obtained by the bar-frame principle and Ligurian and hybrid bees in the hands of Cottager Walton, as exhibited at our late show? Has anything in the way of supers ever been produced from skeps which can compare honestly with the magnificent exhibits of Mr. Cowan, in 1874, 1875 and again this year? The boast of the old system is, that sometimes swarms will rise to a hundred pounds weight, which system necessitates the breaking up of the stocks to obtain the honey; but the glory of the bar-frame principle is that a hundred pounds can be taken in supers, forty to fifty or more pounds extracted from the stock-hive, and no harm done."

"Undoubtedly the old skep and its advocates have done the country immense service with the black bee, and in the hands of those who are content 'to drive slowly,' they will, doubtless, retain a place; but as a matter-of-fact, the bar-frame hive and the Ligurians are driving them out of use, and presently black bees, as a distinct variety, will have ceased to exist. We are perfectly sick of the subject; there will always be some who will rail against what interferes with their own pet ideas, and there will be those who will not see advantages which proclaim themselves trumpet-tongued throughout the world; others that having made an assertion, having said a thing, will spend the remainder of their life in sticking to it, be it ever so wrong; and after some

experience with such, we think wise men will *let them alone.*"

BEE-KEEPERS' MAGAZINE.

The Rev. J. W. Shearer gives an excellent article on Wintering, in which he gives the following remarks on

Uniting Weak Stocks.

"It is much better to unite all weak stocks in the fall and keep the extra comb in a good dry place to be given in the spring to build up swarms. Bees do not unite so readily after the honey harvest is over as they do in the summer and during swarming time. A little preparation is necessary. Proceed as follows: Select the two hives to be united and take away from each half the combs leaving those that are the largest and best filled with honey and pollen. If these are lacking one may be taken from some old hive which is able to spare it. These two hives will have just the amount of comb necessary for the new. The next day proceed as follows: Preserve the youngest queen for the united colony. To do this find the oldest queen and cage her, to be used should accident befall the other. Then smoke both hives well until they fill themselves with honey. This serves to give them the same scent. They may then be treated in two ways. First, take the combs with adhering bees and place them alternately into the new hive. Second, shake the bees from all the combs in front of the new hive and let them enter after placing the comb alternately in the hive.

The latter is perhaps the best plan. Then close up the hive so soon as the bees have entered, giving good ventilation. It will not do to open them at once for many of the old bees would return to their old stands and be lost. To prevent this proceed as follows: Keep the new hive closed until about sunset. Close it the next morning and open again at sunset. On the second morning open again and give the hive a few sharp raps. The bees will then take their bearing and return all right to the new hive. It is sometimes a great assistance in uniting, to first sprinkle both hives with sweetened water, into which a few drops of some perfume has been added."

Feeding.

"Where the winter harvest cannot be relied on the bee-master should feed all the stocks which have not a supply, with good sugar syrup made of the consistency of honey. It should be fed as rapidly as possible to prevent the use of it to too great an extent for making wax and raising of brood. It is not well to encourage the laying of eggs after the last of September when winter food should be given. Up to this time they should be stimulated if no honey is obtained, by regularly feeding a very little syrup at a time so as to have a good supply of young bees for wintering. The syrup should be given about sunset to prevent fighting, and they will take it much more rapidly especially if the evenings are cool if it be given whilst a little warm. It should be fed in the cap or top box of the hive in some good feeder. Perhaps the simplest is an inverted fruit can with a piece of thin cloth tied over the top. Two or three of these may be given, a hive at a time. In a very few evenings, if fed properly, they will receive sufficient. A teaspoonful of cream of tartar added to a quart of syrup will assist in preserving it from crystalization. It should be first dissolved in a little warm water before pouring into the syrup."

Wintering out of Doors.

"About the first of November, when cold weather seems about to set in, bees should be fully prepared for winter. If wintered in the open air the following are important points to be attended to. Each hive should in some way be prepared against sudden reverses of heat and cold. The entrances should be towards the south or east with good protection on the other sides. A good evergreen hedge will check the force of winds and prevent disturbance. The hives should sit firmly on legs or benches a little way above the ground to prevent the combs from molding. If large hives are used, division boards on either side closing up to about nine frames of comb will leave an air chamber on each side of the bees. This with a similar protection in front will greatly aid in avoiding sudden changes. It is very important that the front end or entrance should be properly closed. Much the best plan is to have a portico enclosed all around for the aligting board. Into this fix an outer door having *at one end* a small exit for the bees, so that mice cannot enter, and at the opposite side from the entrance into the hive so that no sunshine will fall in the entrance and tempt the bees out when it is too cold to fly. Some fine day in winter this outer door is removed so that the sun can shine full into the hive when the bees will fly out, void their fæces and return in better condition to their hives which are again to be closed."

GLEANINGS IN BEE-CULTURE.

This season Novice has decided to winter his bees on their summer stands. He says:

"Our bees are to be wintered on their summer stands; not a bee is to be bothered by being lugged about, and if they die, it will not be of home-sickness. The greater part will have only the chaff cushions pressed closely down on the frames; some will have chaff on all four sides, some on three sides, and some on only one side. A dozen or more, will be entirely surrounded with chaff, bottom board and all." "Painting bottom boards we find to answer quite well for preventing their being covered with wax and propolis. Some that have been in use two years, are almost as nice and clean as when first given the bees."

Giving Bees Bits of Comb.

"We have tried giving bees bits of comb in front of the hives, and find that if the distance is so great they are compelled to take wing, they pack the comb on their pollen baskets; if so near the hive that they can carry it on foot, they bite off bits as before, and then stick them together in a lump, holding this lump as it appears to us, under the chin, with the aid of the tongue. With this lump of wax, when the bee has about as much as it can carry, it starts into the hive hurriedly, and goes directly to where comb building is in progress, or may be to where cracks and crevices are being

stopped by propolis, for these bits of wax seem to be used for either purpose indiscriminately. When packing it in their pollen baskets, they use a kind of slight-of-hand movement, that is quite puzzling until one has studied it out. A bit of wax is pulled from the comb as before, and is then stuck on the side of one of the middle feet from which it is 'slaped' on to the rest in the pollen basket with a movement so quick that the eye is unable to follow it, and it is only by observing the finishing pats of this limb, that we are able to divine how the wax got to the pollen basket at all."

Cases for Shipping Comb Honey.

"The cases are made of lumber purchased for $11.00 per M. It is planed down to about ¾, and then boxes made to hold 40 or 50 combs just as they hang in the hive, with a pair of handles at each end to carry them by. The handles are simply a prolongation of the sides of the box, whittled round and smooth, so as to be easy for lifting so great a weight—200 to 400 lbs. To keep the combs apart, the rabbets along the sides are notched just right to admit the projecting ends of the top bar, and a three-cornered strip notched in a similar way, is nailed along the bottom. When the cover is screwed on, every frame is secure in its place. He receives the same price for comb-honey put up in this way, as for that in the sections—20 cts.—but receives the frames and cases back."

Chaff Cushions.

"Our house apiary is supplied with chaff cushions, and we are rejoicing to find them answering the purpose so well. These cushions are made of two pieces of Indian head muslin, 17x21, joined by a band 6 in. wide, so that we have a box of cloth as it were; we prefer to use the band, as it leaves the ends and sides square, making a close fit to the sides of the hives, or to each other when placed in the house apiary. The night they were put on, the temperature outside was down to 40 deg., in the house 60 deg., and a thermometer put under one of the quilts for a few minutes, showed 80 deg. Before putting on the cushions a pretty strong hum was heard during cool nights, but now we hear not even a 'whisper.'"

Bee Language.

Concerning the question of bees communicating with one another, Novice reports the following test:

"Yesterday (Oct. 18th), the door of the honey house by some means got open, and at noon we found them doing a 'land office business' on our sections of comb honey. The door was closed until they were all on the glass, and then opened just long enough to let them out. As a fresh army rushed in at every opening, it was some time before all were out, and as each lot rushed laden into the hives, a swarm of workers came out and made straight for the door way. At night they had given up buzzing around the door, and a feeder was placed in front of a hive which we watched until a few bees were ready to go inside with a load of honey; almost as soon as they were out of sight, a lot came tumbling out, and went straight to the door of the honey house. More kept coming, and we finally were convinced that they only know when a bee comes in laden, that it has obtained its load *somewhere*, and that the only way they have of finding it, is to scatter about in every direction until they find it."

Feeding Bees—Movable Frames.

The Rev. L. L. Langstroth says:

"When feeding large colonies in July and August to encourage the preservation and production of drones, I used old discarded fruit cans, putting in them two or three small pieces of corn cob, and one long one. These were placed in the portico about dark, removed next morning and set on the ground near the hives, so that they could be readily refilled and replaced in the evening. No robbing, no bees lost in the food. After two or three feedings the bees were as conscious of the time for feeding as our barnyard stock, parading impatiently over the floor of the portico, and finally swarming upon the can as soon as we had left it. If two cobs are tied together, one to be in the can, and the other outside so as to rest on the portico, a strong stock will empty the can in quite cool weather."

On the subject of movable frames he says:

"By all means let the old and new systems be tried by *experts*. I have no doubt that many are "dabbling" with frames, who would be much better off if they used the old gum, and the sulphur pit."

"The fact cannot be questioned, that for some reason the race of bee-keepers who make bee-keeping profitable without movable frames is fast dying out. Is there among them one who can compare, for success, with Capt. Hetherington, or the late Adam Grimm?"

"Let me call the attention of your readers to a single point, the rapidity with which after the most disastrous winters an apiary is re-established by those who have control of the combs, while similar losses with the box hives are irreparable."

"As friend Heddon has used movable frames and now returns to the old box, with supers for surplus, his reports will be looked for with all the greater interest. If all our fancied improvements are only 'fuss and feathers,' or at most beneficial to scientific amateurs, the sooner we know it the better, even if we should be as much surprised as any traveler on a first-class railroad car, would be if called to give it up for a comfortable seat in an old-fashioned stage coach."

Fifty Dollars Damages.

Novice was foolish enough to ask every one who had bought foundation of him, and were not satisfied, to send in their bills for damages. H. A. Burch sent in a bill for $50, which was paid, but Novice sent with it an appeal for mercy on his hard earnings. He adds that a few more such claims for damages would prevent him from continuing to publish *Gleanings*. Mr. B. thinks the foundation was $150 of damage to him, but he was modest, and asked only $50.

Novice should withdraw that "offer" at once. The existence of *Gleanings* should not be thus periled.

MOONS' BEE WORLD.

Domesticating Bees.

Friend Moon remarks that "Bees can be learned to come at *call;*" and then adds:

"We plac d a swarm in a dark room upon the floor. We fed in flat dishes with floats to prevent the bees from getting into the food. At first we had to rap on the hive to call them out. As soon as they found that their food was administered in that way, they were n t slow to come for it. We soon found that when we entered the room, with or without food, in the dark, and at the distance of 8 to 10 feet from the bees, by gentle raps on the floor, they would come to us by thousands. If we changed to another position they would follow us, always peaceable and kind."

Introducing Virgin Queens.

E. C. L. Larch gives the following as his method of introducing a virgin queen:

"She must be not more than a few hours old—the sooner after hatching the better. Place her on a comb where there is plenty of honey and close the hive. I have only succeeded in introducing one virgin out of several that were over twenty-four hours old, and she was caged 6 days in a hive with a laying queen. When the laying queen was removed, she did not commence laying until about 2 weeks old. I prefer to give to each new colony or nucleus a queen-cell, nearly ready to hatch, and then waiting about 6 hours. If I have the time, should several queens hatch at once unexpectedly, and they are discovered before being killed, I endeavor to save all that I can by giving all the surplus queens to nuclei at once.

☞ "Mr. Boardman says he feeds his bees with a composition of one spoonful of sugar, boiled in four spoonsful of water, to which is slowly added, (stirring always) half a spoonful of wheat flour. It has the appearance of white honey and answers the purpose very well. The above preparation can be increased to pounds, quarts, &c., if large quantities are required."

☞We issue this number of The American Bee Journal a few days earlier than usual, in order to permit the publisher to attend the National Convention and Honey Show at the Centennial grounds, from Oct. 25th to Nov. 1st; a full report of which may be expected in our next number.

The publisher has gone to the Centennial Meeting, at Philadelphia, and will not return till the 4th of November. So those writing to this office before that time, must not be disappointed if they do not get an immediate reply.

☞No class of business suffers from the hard times more than the business of publishing a newspaper. Three-quarters of the newspapers published in this country are not paying expenses.

☞Among our many callers this month, we may name Mr. T. F. Bingham, of Abronia, Mich. He has already sent his bees to the South to winter. He has 200 colonies. He has a ton of comb and 1,500 lbs. of extracted honey.——Mr. Staples, of Columbia, Tenn., of the firm of Staples, Andrews & Vaughan. They have 400 stands of bees, and have sold a large lot of queens and bees this season as well as produced much honey.——Mr. R. R. Murphy, of Fulton, Ill., who was on his way to the National B. K. Convention. His extractor has already been awarded a premium by the Centennial Committee.——Mr. E. Osburn, Jackson Co., Iowa, also called. He has 56 colonies, many of them having given 100 lbs. of comb honey each. He has a ton of box honey now on hand.——Mr. George Thompson, of Geneva, and Mr. James Marvin, of St. Charles, of Kane Co., Ill., spent a pleasant hour with us. The latter has several tons of extracted honey; having sold his box honey, at 20 cts. per lb. in the quantity.——Many others have also given us a pleasant call, whose names we do not now remember. All of them, however, report a good honey harvest.

☞The Governor of the Province of Quebec, Canada, has just decreed that bee-keeping be taught to the pupils of the Normal School of Montreal. Mr. Thos. Valiquet, of St. Hilaire, has been appointed lecturer. We congratulate the Governor on his decision, and the superintendent of the schools upon the appointment of this experienced bee-keeper. He could not have made a better choice.

☞Mr. H. Alley, Wenham, Mass., has sent us one of his Smokers. It is a tin tube with a mouth-piece in one end, and a small tin tube in the other to force the smoke through. Mr. H. sends the following, descriptive of it and its use:

"I have used these pipes for the past 18 years, and hardly know how I could get along without one. I have taken 20 queens from nuclei hives by the use of one of these pipes, and put them into mailing boxes, without re-loading or re-lighting the pipe. Have opened and examined 4 Langstroth hives by the use of one of them; there is no trouble about the pipe going out. I hold it between my teeth and direct the smoke to any part of the hive I desire. If the bees attempt to run up from between the combs, I blow the smoke on them, and they soon get out of my way. I find it very useful when removing boxes or introducing queens."

Agents.—We want a good agent in every section of the United States and Canada. Such are invited to correspond with us.

An Old Bee Book.

Books are landmarks in the field of truth; milestones on the highway of knowledge. Not many years ago, some laborers while excavating in Broadway, N. Y., came upon an old milestone that still persisted in saying, "One mile to New York," though it was found in the very heart of that great metropolis. In like manner, old books often show themselves to be far behind the times, by their now obsolete contents, but in some cases they surprise the reader by showing that items of knowledge supposed to be new and modern, are very old and time-honored.

Both these remarks find numerous illustrations in a bee-book published sixty-two years ago in London, England. We came upon it while scanning a highly-varied assortment of second-hand and old publications, exposed for sale at a book-stall in an Eastern city. Originally sold at eight shillings sterling, an outlay of forty cents constituted the writer its happy owner, and it is no exaggeration to say, that the costliest new novel of the age, would not be half so interesting to an intelligent bee-keeper, as this now venerable volume.

The title-page is as follows: "A treatise on the breeding and management of bees, to the greatest advantage. Interspersed with important observations adapted to general use. Deduced from a series of experiments during thirty years. By John Keys. A new edition." This "new edition," the writer states in his preface, is in reality a new book. He says that in 1780, he "ventured to publish a work of this kind," according to the best knowledge and experience he then had. Now, thirty-four years later, the author, "in the vale of life," discovers, that as the result of his researches, observations, and experiments, he differs to such an extent from himself, that "instead of a second edition, a new book became necessary."

There are few active-minded men, bee-keepers or others, who do not differ amazingly from their former selves, both in opinion and practice, after the lapse of thirty-four years!

In the course of the preface, the author assures "apiators" that to the best of his knowledge, "every hint or information that has been found of any real service, in any writer of note, foreign or domestic, is comprised in this volume." A foot-note contains a list of these writers, and we own ourselves not a little astonished, at the number of names given. "Butler, Mew, Geddy, Purchase, Wolridge, Rusden, Warder, White, Thorley, Mills, Wildmans, Debraw, and Bromwich. Foreigners: Miraldy, Reaumur, Bonnet, Shirach, Needham, Norton, Seykers, and others of less note." It is rather extraordinary that Huber is not included in this enumeration, for it was reading the works of Reaumur and Bonnet, that interested him in the study of bee-life, and long before 1814 he had become widely known as a writer in that department of natural history. Indeed it was in 1814, that his numerous papers published through various channels, were gathered into one collection. He probably ranked then among "others of less note," though he subsequently became more distinguished than any of them. It is safe to infer that Keys was not much indebted to Huber, or there would have been more distinct acknowledgement of obligation to him.

The preface further states that within a few years, "warm disputes" had arisen between different naturalists and apiarian societies on the continent, "relating to the generation of bees, and the formation of artificial swarms in consequence of some new and wonderful principles advanced by a Mr. Schirach, secretary of an apiarian society. "Eight years of experimenting at the cost of much loss and disappointment had convinced Mr. Keys that Schirach's method cannot prove of public utility.

By way of redeeming this introductory paper from dullness, we append a few amusing extracts from Chapter I., illustrative of the queer ideas about bees that were in vogue 64 years ago. Speaking of the queen, he says, "The more full of eggs, the more yellow is her belly." Note this, ye breeders of Italian queens and let it settle for ever the controversy about light and dark queens! "She is five times longer in laying a royal egg, than a common one." "The queen is impregnated about August, by virtue of which she is enabled to breed in the spring, till she produces fresh drones." The idea of one impregnation for life, had not dawned on the apiarian world at that date. Drones are said to be discarded late in the season, because at that time they have become "devoid of the spermatic milky liquor." The large number of drones found in a hive, is accounted for because "the queen, containing some thousand eggs at a time in her body demands a larger supply of the prolific juice than a few drones are equal to furnish." This is noted as a matter of wonder, "the many thousand times I have observed drones in the combs, I never beheld one with its tail in a cell." Like

modern "apiators," Keys had an intense curiosity to procure a complete view of an intercourse between a queen and a drone, but alas! he died without the sight. By confining a queen and a drone under a glass tumbler, he had "several times been witness to those amorous preludes recorded by Reaumur." The queen would "caress the drone, frequently repeating such wanton gestures as would stimulate a torpedo, or any other male but a drone!" He repeatedly witnessed "a royal duel," under a tumbler glass between two queens taken from different hives, which always "terminated in the death of both." Describing a bee-dress, he says among other things, "an apron before will be useful to prevent these prying insects from tickling the belly." He adds, "Women should not meddle with bees, without this bee-dress; nor then, without the addition of a man's coat, and I had almost said, breeches also."

It will be highly unfair to conclude from the above extracts that the book as a whole is comical and laughable. On the contrary, it is wonderfully stored with good, sound, practical advice about bee-keeping, and some parts of it show that we have not made such prodigious advances in the art, as we are sometimes prone to flatter ourselves. But this article is already quite long enough, and we must reserve a further notice of this old bee-book for a future number or numbers.

W. F. C.

New Zealand Clover and Bumble-Bees

The following is an item that has been "going the rounds" among the newspapers of this country:

An interesting experiment has been made in the shipment of two nests of bumble-bees from Plymouth, England, for Canterbury, New Zealand. The principal object aimed at in the introduction of these insects into the antipodes is the fertilization of the common clover, the pollen of which the common bee is generally unable to collect, while the bumble-bee, having a longer proboscis, and being much stronger, is able to reach sufficiently deep into the flower to collect the fertilizing dust.

Incidentally bees do fertilize plants, by scattering the pollen that adheres to their legs from the flowers they work on. But what can "two nests of bumble-bees" do for the salvation of the clover of so extensive a country as New Zealand? Surely it must be in a direful condition if it is dependent upon "two nests of bumble-bees" for its prosperity!

☞ Read our list for Clubbing papers.

Our Premiums for Clubs.

A. G. Hill has sent us one of his Gas Pipe Extractors to be presented to the person sending in the largest club of new subscribers to THE AMERICAN BEE JOURNAL before January 31, 1877. The Extractor is light and extremely simple. We will pay the express charges, so that it shall be "without charge" to the recipient.

D. A. Pike will present one of his beautiful Albino Queens—whose progeny will be one-half Italians and one-half Albinos—to the getter up of the *second* largest club of subscribers. The Albino will be sent, post-paid, May 1, 1877.

We will add the following:

For the *third* largest list, we will send a tested Italian queen in May, 1877.

For the *fourth* largest list, we will send 500 young tulip trees (4 to 8 inches high) in April or May, 1877.

For the *fifth* largest list, we will give a copy of THE AMERICAN BEE JOLRNAL for 1877, post-paid.

For the *sixth* largest list we will send, post-paid, a copy of Vol. I. of THE AMERICAN BEE JOURNAL, bound.

See our club rates on page 296 of this issue. Names and money can be sent in as received, mentioning that you wish to compete for the prizes, and we will open an account accordingly. Work should be commenced *at once.*

Bee-Keeping in Utah.

The editor of the Utah *Pomologist* gives his experience in practical bee-keeping in the following language:

Seven years ago we obtained a hive of bees, and from this colony have produced over *four hundred* colonies.

Last year we had no swarms, and this year but one, from 150 hives. At the swarming time we looked for queen cells and found none for these two years, though the hives were full and in good condition, so we concluded that they had been so widely propagated by division that their instinct for swarming had disappeared, and no queen cells are formed in spring as usual.

Our bees did splendidly all the early part of the season and filled up very handsomely, but when the dry weather came, few blossoms were left, and they produced little nectar, the bees fell upon broken and injured fruit, and laid up but very little honey. We must plant our bees in a five acre lot of mignonette, and then we shall not look in vain for plenty of sweets all the season.

☞ Out of 40,000,000 people in this country, about 70,000 are bee-keepers and these send to market about 15,000,000 pounds of honey and wax yearly, representing in value $3,676,763 for the former, and $189,388 for the latter.

The Cause of Foul Brood.

More than two thousand years since, Aristotle described this terrible plague; it is, therefore not of modern origin. This disease, causing larvæ to die in the cells, and creating a foul stench which permeates the hive, bringing death to its inhabitants, has been a subject for discussion for many years; and anything that tends to throw light upon it will be of interest to the readers of THE AMERICAN BEE JOURNAL. Dr. Schonfield, of Germany, has lately made a variety of experiments with it, and we present our readers with the following extracts from his paper, which has been translated by Mr. J. S. Wood:

Dr. Dzierzon proposed, by the wish of the editor (of *Bienen Zeitung*), at the last (Vandreforsamlingen) exhibition at Saltsborg, the following question: "What is to be looked upon as decided relative to foul brood, both as regards theory and practice, and what remains now undecided?" But, although he laid all his views and his name's influence in the balance in favor of the correctness of the Preusziske theory, he must still acknowledge that the incontestable proof was wanting, as at the conclusion of his answer he declared, "If also the theory brought forward by Dr. Preusz should prove correct, yea, even if it is the most probable, so is yet the question—cause, the sickness's real nature—even now enveloped in obscurity." Thus we stand in relation to the problem which I previously stated:

Firstly. It must incontrovertibly be proved that the spores of the fungus leave the dried-up foul brood, and they must, inasmuch as they float in the air, be able to be caught.

Secondly. It must next be shown that such fungus spores, that are caught in the atmosphere, when placed on healthy larvæ, can grow and increase to an uncountable number, until at last they kill the brood, and so prove themselves the cause of the sickness.

Although the problem appeared difficult, I went even confidently to the work. I wrote immediately to Herr Locher, in Sigmaringen, and asked him for a little foul brood. The 18th of June I received, enclosed in a letter, so much as I could form into a ball about the size of a pea. The substance was very dark, nearly black, moist, and tenacious, and its odor was exceedingly disagreeable. A careful examination under the microscope proved the presence of fungus of the same form as Micrococcus. Had I, after having solved my problem, began first to show that the spores could escape through the fly-holes (entrances) of hives containing foul brood, it would have been necessary for me (in order to have obtained such a hive) to dissolve the infectious substance in water, and therewith sprinkle a comb containing healthy brood. It is most probable that such a proceeding would have failed, as the bees would most surely have cast out the dead larvæ and pupæ before the artificially produced sickness had had time to develop itself fully, and infect the whole hive. In every case there would have gone a much longer time by that means before I had arrived at the result. I had not, however, in the mean time the opportunity, as I already wished to discuss my experiment at Halle. I, therefore, immediately made the experiment to catch the spores that were escaping, and were floating in the atmosphere, from the infected substance that had been sent me, and thereafter use them for infecting healthy brood. For this purpose I constructed the following apparatus: On a smooth-planed board I placed a bell-glass, in the top of which was a round hole; in this I fixed a glass tube two feet long; there was also fixed a similar glass tube in the board. In the top of the uppermost tube was fixed a plug of cotton-wool, as also in the under end of the bottom tube, and the wool was not pressed tight, but so that the air could circulate freely through both tubes.

The foul brood substance that I had received from Herr Locher, was now placed under the bell-glass on the 21st of June, and left to dry slowly. If, then, the assertion that the spores escaped in the air when the substance was dry was correct, then it was only necessary for me now and then to place the apparatus by the window in my study, and expose it to the full influence of the sunbeams, as if the air in the bell-glass, by the power of the sunbeams, was warmed up to 40 deg., it must, by a well known physical law, escape through the uppermost tube, while the cooler air from the floor of the study must enter the bell-glass through the bottom tube, and at the same time it was quite as certain that therewithal the spores of the fungus, that were carried by the upward currant of air, would be caught in the wool above.

On the 5th of July, on which day the substance was quite dry, until the end of the month, I got four plugs of wool, each of which had served as the top plug for about eight eays; besides these I had two pads of wool, each of an area of about four square inches, which I had placed inside at the top of the bell-glass.

Had the spores from the substance really been escaping? and had the wool caught them as they were coming out into the world? All rested on the answering of these questions; and examination gave the following results:

1. When quite a small portion of the wool was washed in distilled water, and thereafter a drop of this water placed under a microscope, it showed a considerable quantity of fungus Micrococcus.

2. If a plug of wool, as large as a pin's head, was laid dry on a piece of glass thereafter moistened with distilled water, and placed under the microscope, the Micrococcus could be seen partly in the water, and partly adhering to the threads of wool.

3. If the wool was examined dry it was difficult to see the Micrococcus, and it could only be seen by aid of the strongest lens, and through three objectives.

4. Of gun-cotton, of which I had two plugs, which were prepared with water as sub. 1 and 2, Micrococci were to be seen in still greater quantities than in the ordinary wool, probably because the one is finer and better suited to retain the spores.

Thus, by a practical method, I have solved the first part of my problem; and it is without a doubt proved, though in an unequal degree, that the spores of the fungus

from the dried-up matter escape, and are borne away by the atmosphere.

Therefore there cannot be the slightest doubt of the fact, that in consequence of the bees ventilating so strongly as they so often do, that the spores must be driven out of a severely infected hive in very large quantities.

When V. Molitor-Muhlfeldt, in order to refute this assumption, declares that there is no circulation of air in a bee-hive, but that, owing to the motionless air, the spores must sink down, and not pass from cell to cell, it sounds almost as if he had no idea of ventilation being caused by the bees, and as if he had not read paragraph 3 of Von Berlepsch's *Der Biene.* When Gunther has succeeded in working a small windmill of paper by placing it at the entrance of a hive containing a strong stock, then it is evident that the circulation of air produced in the hive by the bees must, in proportion, be a much stronger hurricane for these light spores than any such hurricane Von Molitor-Muhlfeldt has witnessed on the earth. And when the same opponent declares on the whole that the atmosphere cannot be the bearer of the infection, so has that invalid assertion been so thoroughly refuted by Dr. Ulde, of Halle, that I will not waste a word on the subject.

It is quite certain that it is not over all, and at all times, that the atmosphere will contain such a quantity of seed-germs; and Dr. Preusz goes too far when he declares that the atmosphere is *everywhere loaded* with these germs. If such was the case, foul brood infection would appear in every district where there are bee-keepers; but there can be shown many districts where this disease is quite unknown; as in my district, up to the present time, it has not appeared.

I certainly succeeded in producing a whole comb of dead rotten and stinking brood; but although I experimented with this comb in the most various ways, placed it at the fly-hole at the open door, and exposed to the sun's warmth and the atmospheric currents about my pavilion, I, after examination, found no more fungus than Fischer, who never had anything to do with foul brood.

Where there is no fungus present, there can never arise infectious foul brood.

Herewith we have approached nearer to the solution of the second part of my problem.

It next requires to show and afterwards to prove that pure fungus collected from the atmosphere by means of cotton wool, has the power to kill larvæ, and by so doing cause foul brood. To do this, I took, on the 30th of July, a comb with brood from a first swarm, brushed off all the bees, and covered about 100 larvæ with wool, which was made fast by means of some thread. The comb was hardly replaced again before the bees attacked the wool, and commenced casting it out in small pieces. On examination of the comb on the 1st of August, it showed that all the larvæ that had been covered with the wool were cleared away by the bees. Three larvæ above the previously closed cells died shorty after the bees had sealed the cells which they were in. The bell-covers were sunk, and the well known small hole was in the centre.

After this, about 100 other larvæ were covered with wool; but again, as also a third time, the larvæ and wool were torn out. I had nearly lost my patience, and I had only now two plugs and one of the squares left, which should be used for other experiments.

I now, rather anxiously, for a fourth time covered a brood-comb, and this time, fortunately, the bees let most of the brood remain in the cells. After an interval of four days, 7 larvæ died. An instantaneous and conscientious examination, by aid of the microscope, revealed the presence in their bodies of immense numbers of Micrococci.

Unfortunately, I was obliged now, on the 12th of August, to defer my experiments, as I could not postpone for a longer time a Bath tour on which I should have started at the beginning of the month. I forgot now to slide in a wire netting to prevent those larvæ that remained being torn out by the bees, but on my arrival at home from the Baths I found all in the best order.

Still the fact that Micrococcus possesses an enormous power of infection, and that it also attaches itself to perfectly healthy brood until it kills them, cannot longer be denied. As incomplete (which I myself acknowledge) as the above proof turned out owing to the scantiness of material that I had at my disposal, and the haste with which I was compelled to operate, as strikingly and as unrefutably have I succeeded by another process to prove it.

As I at once saw beforehand that under the circumstances before mentioned, and the well-known strong propensity of every strong hive of bees to remove as quickly as possible every sickly or dead larva from the hive, it would be extremely difficult to arrive at a complete and satisfactory result, so the idea occurred to me to try the experiment of infection on the larvæ of other insects, which it would be possible to observe without obstruction.

As specially adapted for the purpose of this experiment, it occurred to me that the larvæ of the blow-fly would be the best, as these larvæ especially possess an extraordinary vitality, that, notwithstanding its voraciousness, it suffers hunger and thirst, and in defiance of its nudity, can withstand cold and heat most astonishingly; and besides the above, this insect resembles the bee in its development, insomuch as it is as larva 14 days, and it is as pupa about the same length of time. I could, without difficulty, procure and nourish these larvæ, and, what at that time was of most importance, I could take them with me to Johannisbath, and there comfortably observe them under the ordeal.

I, therefore, on the 11th of August, laid a juicy piece of meat in the window, and a fly of metallic lustre, desirous of laying, soon deposited a heap of eggs on it. The next day about 100 were hatched, and these grew with their well known rapidity. The second day of my stay at Johannisbath, to where, of course, besides these larvæ, I brought my microscope, some of the wool that contained the fungus, and also a few bell-glasses, under which latter I placed three separate sets of larvæ.

The first and second had each ten, and the third the remaining larvæ. The larvæ under the first bell-glass on the same day, together with the meat which was their resort, were covered with wool. Six days after this the larvæ attained their normal size, and this without my being able to

detect the slightest unhealthiness; on the same ten larvæ, under the same bell-glass, and on the top of the wool, I laid a fresh piece of meat, which, together with the wool, was well saturated and smeared with the excrement of the larvæ.

Two days afterwards, seven of the larvæ were dead; some lay on their backs, others on their sides, but all were stretched out. The others lived and transformed after one, two, or three days' interval.

A very careful microscopical examination the next day of a dead larva showed that the whole surface of its body was covered with Micrococci. I might wash any portion of the larvæ and examine the water; I might place the minutest piece of skin under the objective and then moisten it, but always the same result—Micrococci in innumerable numbers.

As the remaining six larvæ soon decomposed, three of them were dried on a piece of wadding so that they could at a latter date be used for experiments of the same kind. Again, two were examined while decomposing, and were found full of uncountable Micrococci; and these last were spread on a piece of meat and given as food to the ten larvæ in the second bell-glass, which, up to this time, had not shown signs of transformation. While we for the present leave these ten unfortunate victims to their fate, let us turn to the three pupæ, which, to all appearance, fortunately have transformed, and whose cocoons gradually get of a darker color.

Our first closer examination convinced us that they were dead, as the cocoons here and there were sunken in. Two of them that I cut out of the middle in the direction of the length revealed such large quantities of Micrococci fungi, that they, without a doubt, must be acknowledged as the cause of their death.

The third pupa, like the three before mentioned larvæ, was reserved for future experiments.

When I to the above add the ten larvæ from the second bell-glass died berore transformation, after a few days' interval, being the result of having eaten their fungus—containing sisters—that one larvæ that I examined before its death already contained an enormous amount of fungi, and that all the others after death proved to be full of fungi inwardly—more especially in the intestines—while the larvæ in the third glass transformed and came into existence as flies, that I for many days bent over the microscope, and had examined more than a hundred pieces; so there can be no longer doubt of the fact that Micrococcus also infects perfectly healthy larvæ, and in the end kills them.

This result, willingly and without opposition, will be accepted by the scientific, as there is nothing to find therein that is opposed to experience or research.

Herr Molitor Muhlfeldt rightly enough declares in answer to my earlier articles, that no fungus-spores can take root on the undamaged skin of healthy animals, because the main principle—the suitable underlayer—is only found when the animal is unhealthy, or when about and unnoticeably has already begun to decompose or dissolve; and this assertion does not allow of scientific proof. And even if it were correct, Dr. Preesz's theory is by no means refuted thereby, or even threatened, as in reality every larva that is seized by infection, finds itself in an extremely sickly state, which may be traced to another cause.

In general, the larva dies soon after the cell is closed, and before it envelops itself as a pupa; during the time that the larva changes itself to a pupa; not alone the skin of the larva decomposes, but the larva, certainly as the result of the natural metamorphosis, finds itself in a sickly condition, and to every deadly attack peculiarly and specially adapted for infection.

We could, therefore, if we might allow Muhlfeldt's assertion a little attention, very easily say at the sickening time of preparation for transformation, and during transformation, the dying and decomposing skin of the larva is the very best and most suitable condition for the support of the fungus' growth so that it multiplies at a rapid rate, and kills the larva before transformation is at an end. Therefore, since Dr. Preusz and Vogel, at Saltsborg, have given the decided assurance that there are always found Micrococci in foul brood, and since I have practically proved that healthy brood can be infected by Micrococci, so can there no longer be doubt that where foul brood appears as an epidemic, there the infection is produced and carried to effect by Micrococcus.

The Situation of an Apiary.

It is two thousand years since Columella lived and penned his thoughts about bees. The following is his advice for the situation of an apiary, and it will be interesting to the many readers of THE AMERICAN BEE JOURNAL.

It were desirable that it face the south, and be situate in a place neither too hot nor too much exposed to the cold. That it be in a valley, in order that the loaded bees may with greater ease descend to their homes. That it be near the mansion house, on account of the conveniency of watching them, but so situated as not to be exposed to noisome smells, nor to the dim of men or cattle. That it be surrounded with a wall, which, however, should not rise above three feet high. That, if possible, a running stream be near them; or, if that cannot be that water be brought near them in troughs with pebbles or small stones in the water for the bees to rest on while they drink; or that the water be confined between gently declining banks, in order that the bees may have safe access to it, they not being able to produce either combs, honey, or food for their maggots without water. That the neighborhood of rivers or basins of water with high banks be avoided, because winds may whirl the bees into them, and they cannot easily get on shore from thence to dry themselves. And that the garden in which the apiary stands be well furnished with such plants as afford the bees plenty of good pasture. The trees in this garden should be of a dwarf kind, and their heads bushy, in order that the swarms that settle on them may be the more easily hived.

☞Mrs. Tupper has been released from custody at Davenport, having given bonds for $800 for her appearance at court.

The Dzierzon Theory.

DEAR EDITOR:—I am but a beginner in bee-keeping, and I see in THE JOURNAL that you often speak about "the Dzierzon theory." Will you oblige me and others by giving a synopsis of that theory in THE JOURNAL? JULIUS JOHNSON.

The "Dzierzon theory" was by the Baron of Berlepsch formulated into thirteen propositions, which are as follows:

FIRST.—A colony of bees in its normal condition, consists of three characteristically different kinds of individuals—the queen, workers, and (at certain periods) the drones.

SECOND.—In the normal condition of a colony, the queen is the only perfect female present in the hive, and lays all the eggs found therein. These eggs are male and female. From the former proceed the drones; from the latter, if laid in narrow cells, proceed the workers or undeveloped females; and from them also, if laid in wider, acorn-shaped, and vertically suspended, so-called royal cells, lavishly supplied with a peculiar pabulum or jelly, proceed the queens.

THIRD.—The queen possesses the ability to lay male or female eggs at pleasure, as the particular cell she is at any time supplying may require.

FOURTH.—In order to become qualified to lay *both* male and female eggs, the queen must be fecundated by a drone or male bee.

FIFTH.—The fecundation of the queen is always effected outside of the hive, in the open air, and while on the wing. Consequently, in order to become *fully* fertile, that is, capable of laying *both* male and female eggs, the queen must leave her hive at least once.

SIXTH.—In the act of copulation the genitalia of the drone enter the vulva of the queen, and the drone simultaneously perishes.

SEVENTH.—The fecundation of the queen once accomplished, is efficacious during her life, or so long as she remains healthy and vigorous; and she never afterwards leaves the hive, except when issuing with a swarm.

EIGHTH.—The ovary of the queen is not impregnated in copulation; but a small vesicle or sac situated near the termination of the oviduct, and communicating therewith, becomes charged with the semen of the drone.

NINTH.—All eggs germinated in the ovary of the queen, tend to develop as males, and do develop as such, unless impregnated by the male sperm while passing the mouth of the seminal sac or spermatheca, when descending the oviduct. If they be thus impregnated in their downward passage (which impregnation the queen can effect or omit at pleasure) they develop as females.

TENTH.—If a queen remains unfecundated, she ordinarily does not lay eggs. Still, exceptional cases do sometimes occur, and the eggs then laid produce drones only.

ELEVENTH.—If, in consequence of superannuation, the contents of the spermatheca of a fecundated queen become exhausted; or if from enervation or accident, she loses the power of using the muscles connected with the spermatheca, so as to be unable to impregnate the passing egg, she will thenceforward lay drone eggs only.

TWELTH.—As some unfecundated queens occasionally lay drone eggs, so also, in queenless colonies, no longer having the requisite means of rearing a queen, common workers are sometimes found, that lay eggs from which drones, and drones only, proceed. These workers are likewise unfecundated; and the eggs are uniformly laid by some individual bee, regarded more or less, by her companions as their queen.

THIRTEENTH.—So long as a fertile queen is present in the hive, the bees do not tolerate a fertile worker. Nor do they tolerate one while cherishing a hope of being able to rear a queen. In rare instances, however, exceptional cases occur. Fertile workers are sometimes found in hives immediately after the death of the queen; and even in the presence of a young queen, *so long as she has not herself become fertile.*

Bee Products in the U. S.

The census of 1870 returns only 136 apiarists—meaning of course that there were only that number who gave that as their exclusive business.

The bee products as returned by the census, was 14,702,815 pounds of honey and 631,129 pounds of wax in all the United States. The States producing over 50,000 pounds of honey are as follows:

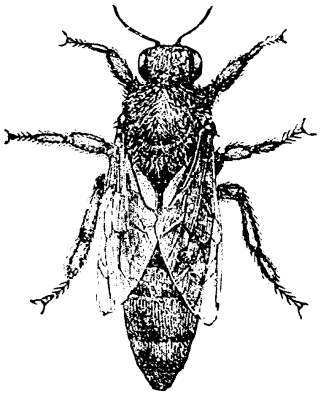
Alabama	320,674
Arkansas	276,824
California	294,326
Florida	50,884
Georgia	610,677
Illinois	1,547,178
Indiana	395,278
Iowa	853,213
Kansas	110,827
Kentucky	1,171,500
Maine	155,640
Maryland	118,938
Michigan	280,325
Minnesota	92,606
Mississippi	199,581
Missouri	1,156,444
New Hampshire	56,944
New Jersey	60,536
New York	896,286
North Carolina	1,404,040
Ohio	763,124
Oregon	66,859
Pennsylvania	796,989
South Carolina	194,253
Tennessee	1,039,550
Texas	275,169
Vermont	142,932
Virginia	505,239
West Virginia	376,997
Wisconsin	299,341

Illinois, it will be seen, stands first in the order of honey-producing States, the next largest being North Carolina, Kentucky, Missouri and Tennessee, each of which produced over 1,000,000 pounds. Only these, and six other States, produced over 500,000 pounds.

Physiology of the Honey Bee.

To the student of nature, a colony of bees presents a scene of the most lively interest.

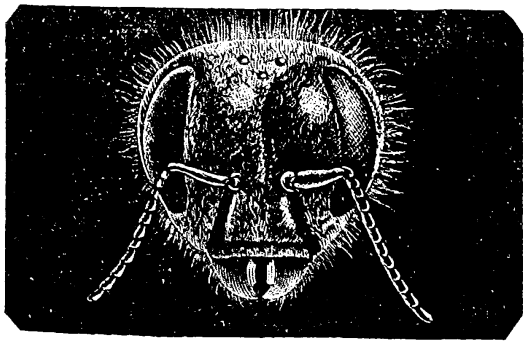
If we draw from a hive a sheet of brood comb, and look into the cells, we will find small, ovoid-oblong bodies, slightly curved and of a pearly white color attached to the bottom of the cells by one extremity. These



ITALIAN QUEEN.

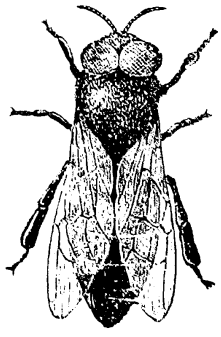
are the eggs from which young bees are to be produced. If found in the coarser cells which measure four to the inch a drone or male bee will be hatched.

The drones are not believed to be of any use in the hive, unless they are sometimes useful in keeping up the animal heat, but it

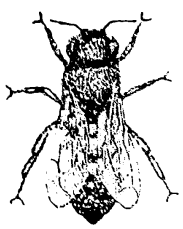


HEAD OF THE QUEEN.

is not likely that there is any economy in this, for the same weight of worker bees would probably make just as much heat. The sole office of the drone is the impregnation of the queen, which takes place at a distance from the hive, high up in the air. As the one act of impregnation is effective during the life of the queen, a single drone



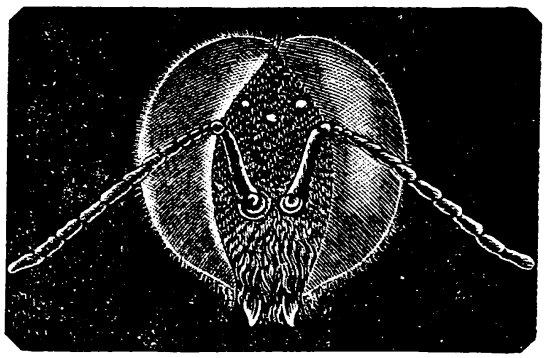
ITALIAN DRONE.



ITALIAN WORKER

for each hive might seem enough. Instead of this, there are usually hundreds, which secures greater safety for the queen when she goes on her bridal trip. The aim of the apiarist, however, is to generally suppress the large production of drones, which is easily done by keeping only a small amount of drone comb in the brood chamber.

If an egg is laid in one of the smaller cells which measure five to the inch it will produce a worker.



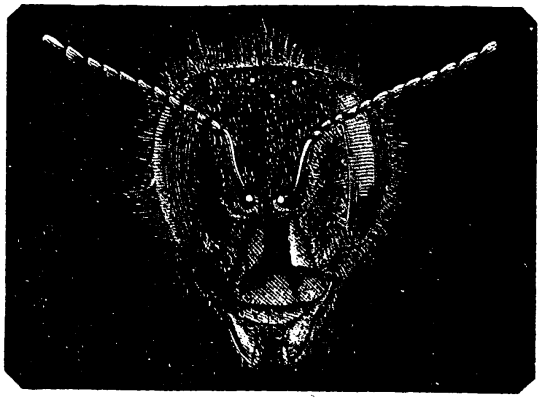
HEAD OF THE DRONE.

The workers are undeveloped females, and they are rightly named, as they do all the work, cleaning the hive, feeding the young, building the combs and gathering the honey and pollen.

If an egg be found in a queen cell, or if an egg is laid in a worker cell and the cell much enlarged, the larva being bountifully fed, a queen will be produced.

The queen is the only fully developed female in the colony and in general only one will be found in each hive. She is rightly named by the French, the "mother" bee, as she is the mother of all; her only business being to lay eggs, and during her time of laying, which is most of the year, she does not even feed herself, but is fed from time to time by the workers.

The three kinds of bees are readily distinguished by their general form, and the magnified cut of a head of each, given herewith, will show differences not so readily noticed without the aid of the microscope.



HEAD OF THE WORKER.

The mandibles or biters are different and the eyes of the drone occupy most of its head. The eye of the bee is compound, being made up of a great number of single eyes, and in the forehead of each will be seen three single eyes. These three single eyes are round, and the facets or little eyes in the compound eyes are six sided, probably on account of their compression by the surrounding facets.

Correspondence.

For the American Bee Journal.

Drones.

In a paper published in THE AMERICAN BEE JOURNAL for July, page 188, Mr. Geo. Thompson urges the importance of looking more to the drone, as a means of improving the Italian bee. His conclusions are proper enough for him to maintain, and would probably do but little or no harm were it not for two reasons, which impel me to claim some space in the JOURNAL, for the purpose of showing their fallacy.

First. He supports his theory by quotations from Dzierzon, Berlepsch, Vogel, and Langstroth, which are, to some extent, in point. Now I assume that the opinions and theories of any and all of those eminent apiarians are valuable, just in proportion as they are the result of actual experience and careful observation; and to no greater extent. If those men have shown how, and especially why we should, as Berlepsch says, "constantly endeavor to presevere and breed from the finest, that is, the most brightly colored drones," then we should, at least, test the matter thoroughly before rejecting their theories. But if experience teaches us that "brightly colored drones" are not a test of their purity, then we should not hesitate to reject their theories as readily as if it was the whim of the veriest novice in bee-keeping. My experience is that Italian queens that produce pure worker progeny, and whose daughters are of uniform color, invariably produce drones of a uniform color, but not as a rule of the bright shades—not "brightly colored drones." I can see but very little difference in the shade of the drones produced from over thirty pure Italian queens; while queens which are hybrid, although from pure mating their worker progeny may appear pure, are more likely to produce "brightly colored drones." Those that are not pure, and that have mated with black drones, almost invariably produce finely marked, bright drones.

A friend of mine, who is surrounded by black bees, introduced three or four queens, which I removed in 1874 on account of mating badly, and I never saw a finer lot of drones than he has from the daughters of the queens I gave him; while the drones of the old queens are not unusually bright. Another instance:—In May, 1875, I sent a colony of bees, whose queen had mated badly, to a friend who was surrounded by black bees. It swarmed twice, and as her worker progeny was hybrid, so was her queen progeny. They in turn mated with black drones. The drone progeny of those young queens, produced this year, are very bright—the whole abdomen being of a bright golden hue. Would these be proper drones for bee fathers? Certainly they would if "bright colored drones" are the only ones to breed to, to insure pure Italian bees. If the color is not a test in one instance, can it be relied upon in any case?

Second.—Mr. T. insists that the male bee should be looked to as much as the female. He says: "Let me draw your attention to the fact that cattle and fowl breeders give as much, if not more heed to the male, and they are very successful in their operations." Why select "cattle and fowls" only, unless he intends to term "cattle" to include all domestic animals, which I think he did. But let us take him literally, and see if the parallel exists between cattle breeding and bee breeding. In the first place, in cattle breeding, the male as well as the female has a sire. This is not true of the bee. In the second place, if the breeder wishes beef, he has the muscular developments of both male and female to guide him in his selections. In this no parallel exists in the honey bee. If he desires milk, he must, in selecting the males, select only from breeds that are the best milk producers, must be controlled by the qualities of the mother and ancestors; just as in getting good honey-gathering bees. The stock breeder looks to the male for the reason that in it, as a general rule, he can see the qualities which he most desires, while the bee-breeder cannot see a single quality in the drone which he would desire to perpetuate, unless it be the color. The queen should be healthy and prolific, and from the best honey-gathering stocks. The bees should be good honey gatherers, and it is desirable that they be docile, and bright colored, at least uniform in color. The drones should be of stocks possessing the qualities desired and that is all that can be attained. If bees are pure I find no difficulty in their disposition. If they are a cross with the black bee I always find them allied closely in temper to the hornet. The disposition will call attention to impurity where the eye will not detect it, save in the queen progeny.

If so much depends upon the color of the drone, then my friend Thompson should be *very careful* in selecting not to get those which evince any irritability of temper, lest by mating with a queen of a cross breed she might produce bees that would be a terror to the nations. He should select only large, lusty, fat drones (good feeding develops the finer qualities) and make a specialty of taking those (if honey is his object) which have an ability to "gather in" the largest amount of honey in the shortest space of time, and if the color is all right we may look for results. J. E. RICHIE.

Lima, O., Aug. 16, 1876.

For the American Bee Journal.

Alsike Clover as a Honey Plant.

DEAR EDITOR:—As you desire the experience of your readers with alsike clover as a honey plant, I will say, I have tried it on a stiff clay soil and it has not given satisfaction, and I much prefer white clover; in fact the alsike soon disappears and the white clover takes its place. It may do on wet bottom land. It is certainly a fine honey plant, and by sowing every year would produce a fine crop of honey, but the white clover is as good and holds its own from year to year without re-sowing.

My bees are now gathering honey from honey-dew, and are filling up rapidly. This is the first honey-dew we have had this season. I am glad you are calling the attention of bee-keepers to the importance of cultivating honey-producing plants. To be successful in bee-keeping we must have pasturage for our bees. If all our bee-keepers would plant linn, poplar, tulip, and

sumac, and cultivate the various shrubs and honey plants, there would be less grumbling about bad honey seasons. If we would, I am satisfied we could have a honey harvest from the time fruit blossoms appear until frost. A bee farm with all the various honey-producing trees and shrubs and plants, would, if properly cared for, furnish a succession of flowers from April to Nov. In Southern Kentucky we cannot depend on the natural honey resources.

If we would make bee-keeping pay, and I am well satisfied we can do it, then let every man who can, plant and cultivate the best honey plants he can obtain, and success will crown his efforts; thousands of pounds of honey will then be gathered where bees scarcely make a living now. A friend of mine told me a large linn tree would afford from 10 to 15 gallons of honey; and linn will grow on any soil, if properly cared for. N. P. ALLEN.

Smith's Grove, Ky., Sep. 12, 1876.

[Reports about alsike clover are conflicting. While some report a failure others are loud in its praise. Of the latter class is one who writes to the Maine *Farmer* and calls himself a "Practical Agriculturist." He says that he has given this species of clover a trial. He began ten years ago, and sowed five pounds of seed on half an acre of land in the spring, and he had a good stand of grass in the fall. The next year he produced two loads of hay and 100 pounds of seed. The second year the yield of hay was the same, and 165 pounds of seed. Its superiority over red clover was such that he did all his seeding with it up to the present time.

We should be glad to have others give us their experience with it.—ED.]

From the Michigan Farmer.

The Wintering of Bees.

Jack Frost has already tinted the maples and elms with red and yellow; even our gorgeous fall flowers, golden rod and the asters are fast fading. These sharp mornings with now and then a chilling breeze remind us of the colder times we may soon expect and for which provision must now be made. Among other things we must not forget our little pets—the bees. They have labored unceasingly whenever they could find anything to do, and have given us a generous supply of delicious nectar with which to grace the tea-table and tempt the palate, and in gratitude we should see that they are made as comfortable as possible during the dreary months of winter. Aside from this, it will not pay to neglect them, and it will pay to take good care of them.

The yield of honey from buckwheat this year has been quite good in most portions of the State, and as a little has been added from the late wild flowers the hives must be well supplied for the winter. In sections where firewood is abundant, or certain species of golden-rod are plenty the hives are filled very full almost every fall. The asters which grow in our State are not the kinds which furnish the large yields of honey so often spoken of, so comparatively little can be counted upon from that source. It would pay our apiarists to procure seed of the most common species of wild aster which grows in the middle southern States. We suppose, then, that our hives are fairly supplied with honey this fall, yet, to be sure each hive should be examined, and any that may be deficient, supplied by feeding honey or white sugar syrup, or by giving them combs full of sealed honey. While there are many expensive styles of feeders, simply a shallow pan set in the cap or top story of the hive will answer every purpose. A quart or so of food may be poured in just at dusk, and shavings or cut straw scattered on the surface to keep the bees from drowning. In order to estimate correctly the quantity of honey in a hive it will be necessary to examine each comb separately or to weigh the whole together and then deduct the weight of the hives as well as something for the weight of the bees, combs and pollen. The easiest way I found is to ascertain by weighing the amount of honey which a comb of average thickness will contain, and from that estimate the amount in each hive. Of course an allowance must be made for the weight of the combs, especially if old, and the pollen they may contain. A little practice will enable one to judge quite accurately by simply lifting one comb after another from the hive, how much honey it contains. There ought to be not less than thirty pounds to each stock that is to be wintered on the summer stand; for in-door wintering twenty pounds will suffice. My experience has convinced me that, other things being equal, those stocks that have a superabundance of honey are much more apt to prove the paying stocks during the next year, than those that have to be fed any time after November or even than those that have just enough to carry them through until spring flowers appear. Forty or fifty pounds then would be preferable to thirty. In examining the combs it is well to cut one or two small holes near the center of each to serve as winter passages for the bees; and, if possible, arrange the combs in such a manner as to leave some empty cells or such as contain brood near the centre of the hive. The brood soon hatches, and in cold weather the bees crawl into these empty cells and being densely packed between the combs the whole mass is enabled to keep up the necessary heat of the hive. It is the natural disposition of the bees to store their honey in this shape, that is, over and around the brood nest; but during a good yield of honey late in the season they fill and seal all the combs to the bottom. When this occurs the bees, being separated by the cold sheets of honey are liable to perish before empty cells are obtained. The remedy is to use the extractor on the central combs, removing only a portion of the honey from each. We suppose then that one of the conditions upon which successful wintering depends is present, namely: an abundance of honey.

The second point to be mentioned is that the hive should be well stocked with bees. Carefully lift the cover or turn the hive up some cool morning and if the cluster occupies five or six spaces call the stock fair. Yet "the more the merrier," and safer, too.

Our third point is, every hive should have a good queen, one that has shown no signs of failing and is not past her third season.

Special repositories with thick walls like those of an ice-house are often constructed for wintering purposes. Dry cellars are

also devoted to the same purpose. These rooms should be dark, and, if possible, kept at a temperature of about 42 deg. F. The hives should be set in as soon as cool weather makes its appearance; and before the combs become frosty, the top of the hive may be removed and a blanket or straw mat laid on the frames.

If the stocks are populous, and have good queens and plenty of honey, and the hives can be properly packed I would rather have them remain on their summer stands. Make a box just the width and length of the hive and three inches deep and set the hive over it. This will give an air space below the combs and preclude the possibility of the freezing up of the entrance. If the hives are large so much the better. Place the eight or ten combs containing the winter's food near the center, and hang on each side a division board, made by nailing together pieces of lath with an even layer of straw between them; place above a cap or top story several inches deep, lay a quilt or straw mat across the tops of the frames, and pack chaff or cut straw over and around them very closely. The cover should not shut very tightly but should admit no water. If snow-drifts cover the hives, they will be much better off.

To sum up, then, the conditions for successful out-door wintering seem to be the following: Strong stocks, plenty of honey, good queens, large hives well packed above and at the sides with dry absorbing material, an air space of two or three inches below the combs, and a chance for the moisture caused by the heat of the bees to pass off very gradually without permitting any draft of air through the hive.

I have had stocks prepared in this manner that reared brood all winter and were in splendid condition for the next season's work. There will be no trouble about "springing" such stocks. When thus prepared I have never lost any colonies in wintering, but I have lost them when they were placed in a cellar or buried in pits, or when they were neglected on their summer stands.

Knoxville, Tenn. FRANK BENTON.

For the American Bee Journal.

Chips from Sweet Home.

We started with 103 hives, increased to 175, got 1,920 lbs. box honey and 940 lbs. slung honey, and about 30 lbs. beeswax. In taking off our boxes we had 122 section boxes that were more or less filled, of the sections partly filled and not salable for comb honey, my wife slung out 200 lbs. Of the sections that were filled and capped nicely I filled 38 boxes, weighing 613 lbs., the empty combs are saved for next year's filling. I have 70 6-lb. boxes partly filled containing about 200 lbs., of which I cannot well make any use; this alone makes considerable difference in favor of the sections. This season was very favorable for swarming, and the forepart was favorable for honey, but the month—from Aug. 15 to Sep. 15—that we count on for honey was very wet, raining nearly every day, so our crop is quite short.

Here is an idea and plan to prevent swarming, or at least to do the next best, for which I am indebted to J. L. Wolfenden of Adams, Wis. I give it as he wrote to *Gleanings* and also on a postal card to me, as I wrote him to tell us "all about it." I have had better success with box honey this season. The way I fool them is this: When they swarm put them in an empty hive just beside their old one. When nicely at work, say in one or two days, give them their old combs and boxes and everything goes on as though nothing had happened. I keep queen's wings clipped when swarm issues, watch her, turn old hive half way round and cover entrance, put new hive with one frame of brood close by old one with queen in front, when bees return release her, when all in, turn old hive to its former position; let them remain that way a day or two, then give them their old combs minus queen cells. I tried it on 6 or 8, and no failures, they worked in boxes as though nothing had happened.

If we can prevent increase, then we will have attained the four things for profit, viz: movable frames, Italian bees, honey slinger and no increase. D. D. PALMER.

Eliza, Mercer Co., Ill., Oct. 9, 1876.

[The above was *all* written on a postal card. Friend Palmer thinks printers have good eyes and magnifiying ones, at that.—ED.]

For the American Bee Journal.

Sundry Observations.

THE BEE MOTH.

We never considered the moth-miller an enemy to bees. Whoever knew a hive of bees destroyed by these pests, unless the hive was first greatly reduced in bees? It is only after a hive has become queenless that the bee moth gets control and destroys the combs. The moth worm does not like the taste of honey, and that part of the combs containing honey are the last to be eaten by them. Novices, as a general thing, get the idea into their heads, that the moth is in their hives, and they fear that they will soon lose them. All hives have more or less moth worms about them, but no strong stock of bees was ever injured by them.

Hives with "patent moth traps" attached to them are only got up to swindle the novice who does not understand the habits of the moth. All such clap-trap fixings are a perfect humbug. Of course if the miller can be destroyed they won't do any damage to even a queenless colony. Moth traps won't do much towards destroying them. At this age of movable comb hives no stock of bees need be destroyed by worms, and only a careless bee-keeper will permit such a thing to occur on his premises.

Last winter we read an article in a certain bee journal and the writer acknowledged that he had lost a hive by worms, and this writer has taken it to himself to teach other bee-keepers the art of bee-keeping, and I notice that there are several bee-keepers who have had not over five years' experience, undertake the job to teach the same art. We old ducks must take a back seat and look on. Appearances about the entrance of the hive indicates what is going on in the hive. Most observing bee-keepers have no trouble in determining whether a hive is queenless or infected by worms without examining the combs. If a hive is known to have been queenless for a month

or longer, look out for worms if the weather is warm, in a short time, unless it is soon taken care of. Combs that are not wanted for immediate use should be fumigated with brimstone. It not only preserves the combs from the ravages of the moth and other insects, but it keeps them in their natural state from becoming mouldy, dry, and worthless. We usually fumigate them in this way: Take a large dry-goods box and pack the combs around the sides, leaving room in the centre large enough to admit a good-sized stone. We heat the stone quite hot and place it in the box, then put roll brimstone on it and cover the whole thing up as tight as possible to keep the fumes of the burning brimstone in, and my word for it, no insect will ever touch those combs, and if there are any about it, it is sure death to them or to any eggs in them. Combs that have been laid up thusly one season are not worth much and we never use them. We prefer to have our bees make new combs, as bees work better in them.

WORKER BEES IN DRONE COMB.

If Mr. R. R. Murphy will look over the back numbers of the JOURNAL, say 9 or 10 years ago, he will find a case reported by me of "worker bees in drone comb." We gave a stock of bees a large proportion of drone comb and fed them liberally, hoping thereby to compel the queens to lay some drone eggs. We examined the hive and found plenty of eggs in the drone combs, but when they hatched out they were all worker bees. We have no trouble now in getting all the drones we need.

SWARMING.

Mr. Wm. Kellogg has his doubts about a hive casting a swarm without first starting queen cells. During our experience we have known of a large number of such cases. We had one this last season come off and no cells were started, but the heat of August drove them out. This stock had a very prolific Italian queen, the largest one I ever saw. After I had hived the swarm, I examined the old hive and found no cells. In the course of a few days I removed a lot of cells and gave them a queen. This I could not do safely until they had made some cells. H. ALLEY.

Wenham, Mass.

For the American Bee Journal.

Keeping Honey.

I put up six one-pound cans of beautiful linden honey, being careful to make it one homogeneous mass by stiring. It was taken from the combs by an extractor on July 20, and put into cans on August 1. The cans were placed respectively as follows: One in a dark dry cellar, one each under shades of red, yellow, green, and blue glass, and the sixth can in full light. On Nov. 8 the honey in the cellar candied to a white. Nov. 22 to Dec. 10, honey under colored shades candied, first in the red, next in the yellow, green and blue; while the honey in full light remained transparent until January, when it soon candied after exposure to intensely cold weather. From my experience, an equal temperature would preserve certain kinds of honey, while other kinds would candy under almost any circumstance. I think that candied honey, instead of being looked upon with disfavor, should be recognized as evidently pure. I hope, however, that the above experiments will lead others to follow up the light theory with beneficial results.

A WISCONSIN BEE-KEEPER.

For the American Bee Journal.

How Queens are Sometimes Lost.

Many colonies become queenless, with new beginners, during the spring and fore part of summer; and when the bee-keeper finds the queen is dead or missing and the workers are constructing queen cells, he concludes at once they are superseding their queens. If he knows the queen is young (being reared only the last season) he can give no reason for their supersedure, but if it is one that he bought, he is apt to wrongfully blame the queen-breeder for sending him an old queen instead of a young one, as he agreed to.

In 1865, Mrs. Tupper said: "bees often destroy a queen for no apparent reason.' There is no doubt that there are some cases of bees superseding their queens; but they are few, compared to the number that become queenless. When I had but a few colonies of bees I was anxious for them to increase in number, and I would overhaul them often, and assist them in every possible way. I have often opened a hive and found all right, the queen laying splendidly and the colony increasing rapidly in numbers, but when I opened it again two or three days after, I found the queen dead and half a dozen to a dozen or more queen cells being constructed. This was apt to be the case with my breeding hive, as I usually looked at that the oftenest. In 1875 I found the cause of such destruction of queens.

It is (with laying queens) simply by overhauling the colony in cold unfavorable weather and during cold nights. Perhaps overhauling them during a drouth of honey might produce the same effect. Last year (1875) I found my breeding queen dead about the middle of May, and thought, of course, it must be that they were superseding their queen. As I had read about bees superseding old queens, I thought the queen breeder had got out of having one old queen die on his hands, though I bought her for untested in 1874. I then reared seven of her queens, but two of which ever became impregnated, being too early in the season. On the 13th and 14th of June, we had very cold mornings, but pleasant days. At noon on the 14th I opened a hive that I knew the queen would be one year old the 10th of August, and while holding the comb with the queen on it, and admiring everything that was going on, the queen passed through a small hole in the comb, and as she started through I saw a worker seize hold of her. I then turned the comb round to see what the consequence would be, and found every worker near her was pitching into her and had her imprisoned in a moment. I then rescued her and caged her the same as introducing a strange queen. I then thought it must be the same influence the cold nights had on them, and to make a farther test of it, I went to a hive containing a fertile queen less than a month old. I looked the combs once over and failed to see the queen; I then handled the combs over the second

time, and found her imprisoned in a knot of workers. I then rescued her and caged her and returned her to her own hive, and in two or three days I released them both the same as introducing a strange queen, and both were received all right. This proved to me beyond a doubt, that the cold weather had the influence on them to take revenge on something, but why they want to take the life of their queen is more than I can understand, when they seem to realize that their very existence depends on their queen, and will put forth every effort to rear others as soon as one is lost!

Some apiarists seem to think that bees destroy their queens by being in a different part of the hive a considerable length of time, getting a different scent from the other part of the colony, and when they pass over the workers will destroy them: but it is readily seen that this is a mistake, for they will destroy their queens when overhauled in disagreeable weather, when we know by the brood nest that they have been in all parts of the hives every day, for weeks.

As for virgin queens the case is different. I never yet have had a virgin queen commence laying, though I have never tried the the experiment in the fall. I have had them hatch in the spring in advance of the drones —or rather before drones were of any use— and nearly every one that was not impregnated in a reasonable length of time, was destroyed without disturbance.

Palo, Mich. S. K. MARSH.

For the American Bee Journal.

Is Bee-Keeping Unreliable?

Yes; but not more so than farm products generally. The wheat crop, for instance, is no more reliable, and when it is a good crop the prices are liable to run down so low that a fair estimate of the use of land, manure, labor, seed, interest, taxes, etc., will equal or exceed the market value of the entire crop through the State. So it is with the corn crop, while an average honey crop intelligently managed will sell at a fair price, and although the original stock has not dimished in value, the receipts will pay full 100 per cent. on all investments.

We are often reminded of the obstacles in the way of prosperity in bee-keeping, such as millers, moths, robbing, going to the woods, etc. These are all imaginary, and if properly managed need not be feared. Really the greatest obstacle in the way of progress is *ignorance*, followed (as the swordfish and shark swiftly follow the wounded whale) by *swindling impostors* who live and feed on ignorance and who have bled and nearly devoured our bee-keeping interests. Just in proportion as bee-keepers, or any other class, are *informed*, they cease to be easy game for sharpers and knaves, whether they be venders of complicated non-swarming bee hives, with moth traps, or whether they vend morus multicaulis, Chinese yams, wine plant, branching corn, with the ears nicely *glued* in, or choice varieties of apple trees, grafted on miserable crab roots, sold at double the usual price, to double the sales and quadruple the profits. The rule holds good, apply it where you will.

Bee-keeping is now reduced to a science and though in its infancy has its main principles ascertained and fixed. Only those who learn the science and become familiar with its application will be likely to succeed. As in all other avocations, especially rural pursuits, the unskillful and unscientific will fail to realize their expectations.

Franklin Co., Vt. O. C. WAIT.

Surplus Honey and Care of Bees.

EXTRACT FROM AN ESSAY READ BY MR. J. A. CRANE BEFORE THE BOARD OF AGRICULTURE OF VERMONT.

As fast as boxes are filled and capped they should be removed, and replaced by new or empty ones if the harvest will warrant it, and as soon as the harvest fails, all should be removed, as the combs become soiled by the bees, if they remain very long in the hive after being filled. And just here I want to say a few words about boxes. For market, they should be with glass sides and ends, with top and bottom of wood, and of a size that when filled will weigh about 4 pounds. I make mine 6¼ inches long by 4¼ in. wide, and 5½ in. high outside. Two nice, white pieces of comb should be attached to the top before the box is nailed together, to induce the bees to commence, and guide them in building straight combs lengthwise of the box; such combs being the most suitable size for the table. When ready to ship to market these boxes should be made tidy in appearance by removing all propolis, and if the glass side of a box is badly soiled it should be removed and replaced by a cleaner one. Cases should be made with open sides, that the quality of the honey may be seen at a glance, and large enough to hold 12 boxes. In these carefully pack the boxes, three in width and four in length, and on one end mark the net weight, with the owner's initial letters. October and November are the best months to ship to market.

After the honey harvest is past and all the boxes removed, the bee-keeper should again go over his hives to see that all have abundance of honey for winter. If any hive is found that is lacking in food it should at once be supplied, or else the stock must be broken up later in the season and united with some other colony. If there is a deficiency of bees in any hive, they must be supplied with brood from hives that can spare it, or else they must be stimulated by feeding to rear young bees, or two or more such united. Also at this inspection the age of every queen should be noticed. If any queen is found that is three years or nearly, it should be destroyed and replaced by a young queen. A queen three years of age may winter well, but is apt to fail early the next spring, which is very injurious to the prosperity of the colony. I prefer after the harvest to destroy all old queens over two years of age, and give the colony a young one instead. If a hive contains a young, fertile queen, an abundance of young bees hatched out the last of the summer, and plenty of honey, it possesses the most essential requisites for successful wintering. Comb two or three years old is preferable to new comb, as it is warmer.

☞Please look over "Our Clubbing List" before subscribing for *any paper*. It will pay you to avail yourself of the advantages there offered.

For the American Bee Journal.

My Report for the Season.

MR. EDITOR:—Now that the honey harvest is ended for another year, it seems eminently proper that we state what has been the conditions with each other and what the results.

My 25 stocks came out of winter quarters strong—never have lost any in wintering or springing. I have always prepared my hives for winter by stuffing dry leaves or fine cut straw around the sides and on the tops of the frames, having first placed a woolen cloth on the top, and contracting boards at the sides; placed them in the cellar some warm day, about the 20th of Nov., and taken them out somewhere from the 10th to the 20th of March. This year I have made rye straw mats—straw unthrashed, nice, straight and unbroken—have not only put them on top of the frames, but also at the ends or sides, using them instead of contracting boards and shutting them in nice and warm. Shall use cut straw and leaves as before.

My hives when placed in the cellar are heavy with honey, and I cannot conceive a state of things, either as regards man, beast or insect, wherein they may have too much of a good thing, the surroundings being all right. I do not wish to discuss this matter now, and would simply say that when I use the extractor with box honey, it is the last of spring or first of summer, never in the fall.

The season here for honey has been short, but tolerably good while it lasted, closing with the white clover, excepting, perhaps, 10 to 15 days of blue vervain. The latter not yielding honey as last year, though there was abundance of it growing here. It has been warm and wet, a bad year for the swarming fever, yet I have only increased my stocks to 28—three increases. Yet they bothered me exceedingly and gave me such an experience as I never had before. What that experience was, it would be a waste of time to tell. Almost every one who has had bees, thinks he has some singular experiences; and in all candor, let me say, I think it very likely; tell the biggest yarn on swarming, and if I don't endorse it, I can tell one that I would not have believed one year ago, and the best, or worst, of it is, it would be true. I know what the trouble was now, and I thought what the trouble was then, and the only difference between now and then is: I've thought what the trouble is now and know what the trouble was then—I hadn't a non-swarming hive.

In closing, let me say that the results of the year has been 2,500 lbs. of nice box honey. R. H. MELLEN.

Amboy, Ills., Oct. 15, 1876.

For the American Bee Journal.

Black Bees—Wintering.

I have had black bees, Italians and hybrids, and at this time only have the common native black bee. Some may wish to know my reasons for discarding the Italians and hybrids, and I will give them. First, the native black bee will stand cold weather better, work better in boxes, start brood earlier in the Spring or later part of Winter and are just as easy to handle without getting stung, and protect themselves against moth with proper attention, as well as any imported stock and they have always given me more box honey than the Italians or hybrids.

I always bury my bees on three sides with straw and dirt and give an open front for flight in the Fall, Winter, or Spring. I set my hives on wide boards, two inches from the ground, in a row with an east front; about six inches apart; fill in between the hives with hay or straw and place on the west side, hay one foot thick, and then cover with wide boards to keep dry, and my bees come out all right in the Spring. I also have a wide loose board set up in front of the hive for a wind-break, and whenever it snows I brush away the snow with a broom. I also use woolen cloths on the top of frames and pack the cap or top of hive full of dry hay in order to give upward ventilation and to absorb all moisture accruing from the breath of the bees. W. N. W.

Wayne Co., Iowa.

For the American Bee Journal.

How to Successfully Winter Bees.

That is a problem quite difficult to solve, and one, too, that has puzzled the best apiarists of this country for years. Opinions and theories as to the causes, and the means of prevention, were plenty enough and seemingly plausible, but when put into practice they would not invariably work as expected. Bees would die when surrounded by the most favorable conditions, apparently, and bees would prosper and come out all right in the spring under what appeared to be extremely unfavorable conditions. The question is not settled yet, but a majority of bee-keepers, after trying all methods, have decided that cellar wintering is the best.

But all does not depend upon the place of wintering. Much depends upon the condition of colonies at the commencement of winter. They must be populous—full of young bees—which condition can always be secured by commencing in time. They must have honey enough to winter on—not less than twenty pounds to the hive. The honey must be pure and sweet. If it has soured in the cells, as it frequently does, substitute sweet honey, or white sugar syrup. There must be empty space in the central combs for the bees to cluster in. This can be secured by removing a frame and putting the rest farther apart. Winter passages through the combs are a great convenience for the bees, as it saves them from traveling up over the frames.

Before putting into winter quarters, lay small sticks on the top of the frames, and on these lay a piece of carpet or quilt. This will make a passage for the bees over the frames, under the quilt. The quilt will preserve the heat, but allow the moisture to pass off. Having all these conditions filled, wait for a fine day in November, when the bees fly freely, and then put them in the cellar. Put them where they are to stay, contract the entrances, keep the cellar perfectly dark, and on no account disturb the bees till spring. If the cellar is dry, dark, quiet, and properly ventilated, you have done all you can, and must wait for the result in the spring. J. H. W. PRYNER.

Butler Co., O.

From the Country Gentleman.

Feeding Bees.

The feeding of bees is a matter in which the inventive genius of man may profitably be exercised in discovering a method that shall be perfectly satisfactory under all circumstances. It is the general custom to feed them in the hive, by placing the food in the supers in a manner that will attract the bees to it. For instance, a colony of bees is found in October to be short of honey, a fact that every skillful bee-keeper may ascertain by lifting the hive, or even by raising one side of it; or if he has movable comb hives, he may examine the combs. These bees may be fed on honey in the comb, strained honey, or on a syrup made of white sugar, four pounds to a quart of water, heated to the boiling point and skimmed.

If honey in the comb be used, first lay down small sticks, about half an inch thick, directly upon the frames, or when common hives are used with supers, upon sticks laid between the holes through which the bees pass up into boxes in the supers, but now removed. You lay down a piece of comb, scatter a little honey near the holes, rap on the hive, and the bees come to the holes immediately to see what is wanted, and finding the honey, they will, if very short of honey, soon carry it all down into the lower section of the hive. But in some cases they will cluster on the comb, cement it to the hive, and leave it where it is, not knowing that it will be impossible to come up and get the honey in cold weather. It is best, therefore to uncap the cells with a sharp knife, and then the bees will carry all the honey down.

Feeding in some climates should never be delayed beyond September, but in warmer latitudes it may be done in October, and in some localities it may be done all winter. The novice in bee-keeping may ask, "Why not feed the bees outside, in front of their hives?" This would be feeding the entire apiary—those colonies that already have enough, or too much, as well as those that need feeding—and when the honey had all disappeared, the strong colonies would in many cases commence robbing the weak ones, being highly excited over the spoils.

I have spoken of comb honey to feed to bees; but strained honey and sugar syrup are better, sugar being found about as good as honey. There are different methods of feeding these. Some "patent" feeders have been introduced based on putting the honey or syrup into a vessel with cotton cloth at the bottom, through which the bees take the honey; but it is useless to buy such a feeder, as anybody can make one if wanted. Let a tinman make a cylinder about the size of a quart measure with both ends open, then attach three legs, to be soldered on about an inch from the bottom, which space will allow the muslin to be tied over it. The legs should come down about an inch below the lower edge of the feeder; and when the cloth is tied on, and the feeder filled with honey, the cloth will, or should, sag down in the center, so that the bees can reach it; and they will soon cover the cloth, and in one night they will empty the feeder, if the cloth is not too thick. If the feed is too thin it will run through the cloth too fast, and if too thick not fast enough. The tinman should make a cover to the feeder, or the bees will enter it at the top, and get stuck fast in the honey. If strained honey be fed it should be slightly thinned, by adding a little water, and heating it to the boiling point.

Another way to feed bees in the caps of their hives, is to put the liquid feed into a tin cup with perpendicular sides, and quite shallow, say from three to four inches deep, and to hold a quart. Fill this cup nearly full, and then cover the honey with floats made as follows: Take rods three-eights of an inch square, saw them off with a fine-tooth saw in pieces a half an inch long, then with a sharp penknife cut off the edges to the center of each piece, and you have the best float ever invented, and originating with the writer. You take a handful of these floats (made of dry white pine) and spread as many upon the surface of the feed as you can, without putting one upon another; you then place the cup in the hive, and tole the bees up to the feed by letting a few drops of honey run down on the outside of the feeder in several places; or a piece of honey comb filled with the feed may be placed against the feeder, and reaching to the top of it. As soon as the bees have found the feed, in one night they will empty a quart feeder, taking every particle of it, and not a single bee will be killed by getting into the honey. It was a mere accident that I learned the value of these floats, the principal point being in cutting them down to octagons.

When an entire apiary requires feeding, which may happen in a bad season for gathering honey, the bees may be fed outside in several large feeders; but great care must be taken that the strong colonies do not rob the weak ones, as soon as the honey in the feeders is gone. Sugar syrup does not cause robberies as much as honey; but honey may be fed outside to fifty or more colonies, and no robberies take place, if you contract the entrances to the hives of your weak colonies, as soon as the bees have carried in the last of the feed, so that but one or two bees can pass in and out at the same time. If the robbing has commenced, all you can do is to contract the entrance immediately; or you may close them entirely, giving ventilation by raising the hive a little, and slipping in thin wedges at the corners. Keep the hive closed an hour, then open it, and rap on it to cause the robbers imprisoned to go out, then close again till after sundown, then open it long enough to let out any remaining robbers, and to let in the outside bees that belong to the hive, then close again, and so leave the hive till all robbers cease to try to enter, which will be in 48 hours, then open again with the passage-way contracted, and your bees will be safe, if the hive contains enough to be of any value.

An important consideration in out-door feeding is, whose bees you are feeding. You may be feeding your neighbors' bees, as well as your own; consequently you should feed on a warm sunny day, give your bees a copious supply, and not repeat the feeding for some days. By so doing, the operation will be over perhaps before your neighbors' bees have scented the honey.

But all this kind of feeding can be dispensed with, if you have movable frame hives, a few to be fed, and as many colonies that have more honey than they need. You merely exchange the empty combs in hives

short of honey for full ones taken from colonies that can spare them. This can be more safely done in the spring than in the fall. A populous colony ought to have in October at least 25 lbs. of honey, in order to be sure of a winter supply. Sugar will winter bees as well as honey; but either ought to be fed early enough to allow the bees time to seal over the cells before cold weather comes. In feeding in the caps of the hives, it is best to feed about sundown, so that the bees of your other hives will not be attracted. If you begin early, a pound a day is enough to give them. Always feed in mild weather, when the bees will not be chilled by remaining in the supers all night. In using new tin feeders, I recommend rubbing some melted beeswax upon their outsides, as the bees often find it difficult to walk upon the slippery tin. A very little wax suffices.

What bee-keepers now need is a feeder that can be placed directly in front of the entrance of a hive; admit the bees freely to it at any season of the year when they fly out; not obstruct their passage in and out at all, and not attract the bees of other hives in the apiary to the feed. Such a feeder would save a great deal of labor, in opening hives, lifting off their roofs, etc., besides enabling one to feed his bees in the winter season, in mild weather, if standing out, which could not be done in the supers, as they would (or should) be covered by some winter protection. T. B. MINER.

Maury Co. (Tenn.) B. K. Society.

The above society held their regular annual meeting on Saturday, Oct. 7, at the Recorder's office, Columbia, Tenn.

Present: W. S. Rainey, President; C. C. Vaughan, Vice-President; Wm. J. Andrews, Secretary and Treasurer. S. D. McLean, Travis McLean, T. J. Perry, J. C. Moore, E. C. Overton, D. Staples, J. M. Byers, R. H. Caskey, J. J. Jones, A. Bowen, and others.

The minutes of the last meeting were read and adopted.

The President stated that before proceeding to the regular business he would be pleased to have an expression of the views of the members on the propriety of feeding sorghum molasses.

S. D. McLean—Had no experience in feeding sorghum, but was of the opinion that they would not take it very readily.

W. J. Andrews—Had fed some to his bees, but did not regard that which he had been feeding as a good article. It was very dark, and he thought slightly scorched in making. Some of his colonies partook of it very freely while others would not take it at all. He had mixed some with honey, and when so mixed they partook of it very freely. What the result would be from it he could not say.

C. C. Vaughan—Had also fed it mixed with honey, and they took it freely.

W. S. Rainey—Had fed it, and noticed that at times they partook of it freely, and that at other times they would not touch it.

R. H. Caskey—Thought that when they partook of it they were unable to gather honey; but when able to find honey in the fields that they would not touch it. He had fed honey, and at times they would not touch it, and he attributed it to that cause.

D. Staples—They will take it, and they will not starve as long as they can get it. He thought that the reason they took it at one time and refused it at others, was owing to the weather; that when the weather was cool it became too thick. That if fed to them warm they would partake of it freely. He thought equal parts of honey and sorghum made a good feed. Did not think it advisable to feed much of it when they were confined to the hive for a long time; but in our latitude, where they are able to have a fly every few days, did not think there would be any bad results from feeding it.

W. J. Andrews—If exciting to a robbing mood they would take it hurriedly.

C. C. Vaughan—Thought they might be induced to take it by feeding on honey for a while; but would not advise the feeding of sorghum.

R. H. Caskey—Had fed a colony on sorghum last spring, but did not think it did them any good.

J. M. Byers—Had a swarm to come out that was entirely destitute of supplies. He fed them sorghum from a bottle; they were slow to take it at first, but did so. He fed them nothing else. It stimulated them, and they soon commenced gathering honey. He was told that the queen was the easiest killed by food that would not agree with them. In this case the queen was not killed from eating it, and she had nothing else to subsist on.

J. J. Jones—Thought to make a thorough test of the matter, they should be fed on it when it was impossible for them to get anything else.

W. J. Andrews—Moved that the next experiment be "Feeding Sorghum," adopted; and the President appointed A. Bowen, J. J. Jones and C. C. Vaughan as the committee to make the experiment.

W. J. Andrews—Had the question recently put to him as to the quality of honey gathered from pea blooms, and would like to know if any of the members could give any information concerning it. None knew anything of it.

Mr. J. J. Jones then read the following essay: *Mr. President and Fellow Bee-Keepers:*—At the June meeting of this society, it conferred on me the duty of addressing you on the subject of honey.

HONEY PLANTS.

We have a vast number of plants in our locality that yields honey—some more and some less—the poplar and the linden being the source from which we get our greatest yields of honey.

GATHERING HONEY.

Bees gather, but do not make honey, as many suppose; hence the great variety of honey—each variety unerringly telling the expert from what plant it was gathered.

HONEY.

Webster says that honey is composed of mucilage, sugar and acid—mucilage the adhesive part, sugar the sweet part, and acid the sour part of honey. Some honey have more and some less acid in it. For instance, I think our linden honey has more acid in it than any other kind of honey we can get; and owing to this fact the uneducated are sometimes led into error.

For instance, a sick man sent to me one time for some honey, and I sent him what I thought to be as fine linden honey as I

ever saw. An intelligent young man, whose opinion should justly be represented, was visiting this sick man and tasted some of this honey, and said that it was sour honey; that it was extracted too soon. Now if he had known that this acid taste was peculiar to the linden honey, I know that he never would have said that it had soured.

EXTRACTING HONEY

It has been my practice for years to extract honey just after the bees have commenced capping. After this time there is but little uncapping to do, and it makes less work for the bees in repairing the combs. I use a large barrel with one head out and well waxed inside; into which I put my honey as I extract, and until it is full; after which I let it stand a few hours, and then draw the honey off into another barrel, always leaving a few gallons in the former barrel. This will save skimming, and will give you nice pure honey in your barrels.

SELLING HONEY.

This is the most important point in bee-keeping. We know that ours is a good locality for bees, and we know that they will gather large quantities of honey, but how to turn our honey into cash at a fair price is a question for our consideration.

We may dispose of a few hundred pounds of honey at home in the way of barter, but get very little cash.

From the little experience I have in shipping honey, I cannot make a very favorable report. Although we have been selling our honey at 25 cents per pound, the expenses have been so great that I do not think that we have realized more than ten cents per pound for our honey. But I think if our bee-keepers society could agree and get up some kind of a co-operative arrangement to sell our honey, we would do much better than this.

PREJUDICE.

There is much prejudice by the uninformed against extracted honey. Some saying that it is not as good as comb honey; and others say that we bee-keepers extract our honey to soon, or before it gets thick enough, and the consequence is that it sours, and some go so far as to say that extracted honey will sour any way. And when we go into the city to sell honey we find that there are but few who will buy extracted honey—that is in the granulated state; they say and believe that it is artificial honey.

Now while these notions of clever people may be amusing to intelligent bee-keepers—still these notions are an injury to us, and we have to meet them the best we can.

HONEY AS FOOD.

Almost everybody is fond of honey, and the number who are not is very small. Honey has been used as food by man from the earliest ages of the world down to the present time. And some of the wisest men that the world has ever produced have said that honey was good.

Samson on his way to get married took honey from a colony of bees in a frame hive of his on the way and ate and gave it to his partner and mother, and they did eat.

One of the Prophets said of Christ, "Butter and Honey shall he eat, that he may know how to refuse the evil and choose the good."

The last food Christ ate on earth, and that was just after his resurrection and before his ascension was honey.

On motion the appointment of Mr. M. G. Grigsby to read an essay at this meeting was continued until the next.

S. D. McLean—as one of the committee to experiment on "what age the larva passes the stage of being reared into a queen" submitted the following report:

I deprived a colony of bees of their queen on the 25th of September, and on the 7th I destroyed all cells. I again destroyed all cells on the 9th; on the 11th I destroyed three more, after which time there was no more constructed.

W. J. Andrews—of the same committee reported that he made a colony queenless July 5th; on the 8th he cut out three cells; on the 9th one cell; on the 10th one cell; on the 12th two cells; on the 13th one cell; on the 14th four cells; on the 15th and 16th he found no more cells, and inserted more brood on the 16th.

S. D. McLean—thought that the experiment was conducted at the wrong season of the year, that it ought to have been in the Spring.

J. J. Jones—Had had queens of the same sitting to hatch some as early as the 11th, and others as late as the 16th day.

D. Staples—Had had them to hatch from 9 to 19 days.

C. C. Vaughan—Had them to hatch this season on the 10th day from the egg.

S. D. McLean—Thought that bees worked from instinct altogether, and never do anything wrong.

The President—If that be true, then why do they eat sorghum, which you think will probably do them injury?

S. D. McLean—I am not sure that it does injure them, as I stated at the outset, I have no experience in that way.

After considerable discussion, it was agreed that it would be about ten days before eggs and larva would pass the stage of being converted into a queen.

The Secretary then submitted his annual report, showing the receipts and disbursements, which was received, accepted and ordered to be spread on the minutes.

The Society then proceeded to the election of officers for the ensuing year.

J. J. Jones moved that all the officers be re-elected by acclamation. Adopted.

S. D. McLean moved that C. C. Vaughan, D. Staples, R. H. Caskey be elected as Executive Committee by acclamation. Adopted.

On motion the Secretary was instructed to secure a permanent place of meeting.

It was moved by S. D. McLean and adopted that the President be requested to deliver an address in January.

S. D. McLean moved that the Secretary address a communication to prominent bee-keepers requesting them to write essays to be read at our meetings. Adopted.

It was moved and adopted that the Secretary prepare a suitable blank for annual reports to be made in April of each year, and furnish the same to the members to be filled up. Adopted.

S. D. McLean moved that in view of the fact that our Secretary contemplated visiting the Centennial—he be requested to attend the meeting of the National Bee-keepers' Association to be held in Philadelphia, and that the President give him a letter to said society, requesting them to extend to him such courtesies as they can consistently, &c. Adopted.

WM. J. ANDREWS, *Secy. and Treas.*

For the American Bee Journal.

A Sorghum Mill Death to Bees.

On the first of September (last month) I had 165 strong stocks of native bees, full to overflowing, and from one quart to a hat-full lying around the entrances of each hive. They were populous colonies with full stores.

A neighbor, within a quarter of a mile, put a sorghum mill in operation. The third day a person told me that the mill would soon use up my bees. I took no notice of it, as I thought if it did kill 8,000 or 10,000 it would not matter, as I had plenty, and to spare. On succeeding days the news came to the same effect. At the end of the first week since the mill was started, I noticed that my bees were all gone inside the hives or elsewhere. I examined them and found 48 stocks had only about a pint of bees left, and the remaining 52 contained about a quart each.

On going down to the mill, I discovered that the destruction had been immense during the previous week. Two barrels, holding 61 gallons of juice each, were covered with coarse sack or gunny bag cloth, for straining the juice. On one side was a hole as large as an egg, where my bees had entered almost *en masse*, and about two good swarms were drowned in these barrels every three or four hours. On one side of the boiler is a tub to receive the boiling scum or foam; this attracted the bees, about as much as the barrels, and thousands perished by scalding every hour.

The workmen had to be protected, as they had been stung by the bees,and their hands, arms and feet were much swollen. I suppose there is no help for it—as this is a free country.

If I had only a few stocks I could move them, but it is quite a task to move so many, and it is hard to see them murdered in this way.

In Quimby's Mysteries of Bee-Keeping, he says: "For a man to see 100 stocks of bees starving at one time is rather discouraging to a sensitive mind. It will be well for him to lay up a stock of fortitude in prosperous times, large enough to last him through such seasons of discouragement." This suits my case; though mine were not starved but murdered, it needs just as much fortitude to last through this season of discouragement.

I have used my honey market-boxes for feed boxes. I had a number of them made of tin. I cover the bottoms about one inch deep with syrup and put in small laths as floats.

I have tried a new way of feeding my bees. I made a scaffold, laid tight, 8 feet wide and 20 feet long, under cover. On this I spread out every morning about 2 inches thick of fresh ground apples and sprinkle with a garden sprinkler a solution made from 4 lbs. of sugar to 2 gallons of warm water, each morning and noon. My bees seem to like this kind of food.

My bees have always made me a good living as well as enough for themselves. My hives are crowded now with full stores, but my object in feeding is to stimulate them to keep breeding to replace those destroyed at the sorghum mill. Will it do to feed through Nov. and Dec. for that purpose?

At the time of writing this, it appears to me that my bees are improving in numbers, and the hives were well filled with brood when the old bees went to the sorghum mill.

J. E. GADSEY.

Willianson Co., Tenn.

Do Bees Make Honey?

Prof. Riley, who asserts that bees do not simply gather but actually make honey, is met with the following from a correspondent of the *Scientific American*. He says:

Is it not astonishing to find that professors of this day state that bees make honey? A good common stand of bees, having but short distance to travel, will increase their stock of honey from one to two pounds in twelve hours' fair work. What chance is there here for a digestive process? Place three pounds of loaf sugar syrup within easy reach of such a stand at 8 P. M.; it will all be taken up and stored away before sunrise next morning. I once thus experimented: After feeding to about forty hives, nine barrels of Cuba honey, upon examination I found no difference between that in the comb cells and that in the barrels, only the former was clearer from dirt. The honey becoming exhausted, I then fed the bees during the rest of the fall with loaf sugar syrup. Upon examination next spring, I found the comb cells filled solidly with well-grained loaf sugar, precisely like that I had dissolved to feed the bees with. Other comb cells were partly filled with Cuba honey and partly with ground loaf sugar.

For the American Bee Journal.

Keeping Bees over the Winter.

Again winter is upon us, and bee-keepers look forward with anxiety to its results in reference to his pets.

Having very good success in wintering bees of late, I thought I would append a few notes in the way of giving my method of preparing for winter.

First, I raise the hive from the bottom board by placing a frame three inches in depth, and the size of the hive, between the hive and bottom board, which gives a space for filth, dead bees, &c., to remain without coming in contract with the combs. I am now making hives with a tight bottom, and giving a space of two-and-a-half inches under the frames. My reasons have been given in the back numbers of THE JOURNAL.

Second: I do not extract honey at the close of a honey harvest, as I have found invariably, that the bees will fill up empty combs with pollen to an injury to the colony for winter, as pollen is more susceptible to dampness, and will sour sooner than honey.

Third: I strive to give my bees honey that is gathered in warm weather.

Fourth: I give no upward ventilation, as I have found that the mortality was greatest with those hives that the honey board did not shut tight. If I had upward ventilation I should close the lower, as the bees in a hive are more susceptible of change in temperature where there is a draft through the hive. I am now making hives with the top perfectly tight. For the last two years my bees in tight-top hives have swarmed from

two to four weeks earlier than in a shallow top opening hive.

Fifth: I winter bees in a repository, and try to have the temperature as near 35 deg. as possible, if in cold weather I keep at the above temperature, I can keep it cooler in very warm weather, so that it becomes more even in temperature than if kept at either extreme.

Now, Mr. Editor, I have given some of my notions in regard to wintering bees, and if it does any good I shall be very thankful as I owe THE AMERICAN BEE JOURNAL for nearly all I know about bee-keeping, aside from experience.

I do not know that the bee-keepers of the country, are any nearer agreed as to "what ails the bees" than ever; but it is time the circle grew smaller. I believe every bee-keeper should be a sort of naturalist and philosopher, and unless we are, we shall not succeed in this age of improvement. So I think Mr. Editor, that the question of "how shall we winter our bees successfully" will be overcome, as well as all others essential to success. C. C. A.

Rice Co., Minn., Oct. 13, 1876.

Notes & Queries.

When do bees stop breeding in the fall?
G. HUNT.

When all kinds of forage give out, then breeding will cease.

Hickman, Ky., Sept. 23, 1876.—Please tell me, through THE JOURNAL, the name of the enclosed plant. G. ILISCH.

The fragment of a plant sent by G. Ilisch, of Hickman, Ky., is a species of Thoroughwort, and as nearly as can be determined from the specimen, it is *Eupatorium serotinum*. A very near relative is known as White Snakeroot. C. E. BESSEY.

State Ag'l College, Ames, Iowa.

Which is the best hive for all purposes?
W. LAMB.

The Langstroth hive is more in favor than any other, and we think that the nearer you come to it, the better. There are a few things that may be improved a trifle, but they are not essential.

I want some good works on bee-culture; what would you recommend me to get? Please state the prices. C. DODGE.

Langstroth on the Honey Bee, $2.00; Quinby's Mysteries of Bee-Keeping, $1.50; Vol. I American Bee Journal, $1.25, and the "manuals" as advertised in this JOURNAL, are among the best things to be obtained.

How far should the frames be apart?
JOSHUA COLEMAN.

From centre to centre, there should be about 1½ inches.

Owensboro, Ky., Sept. 24, 1876.—"DEAR EDITOR: Enclosed you will find a sample of the top of a plant that appears to yield a vast amount of honey. It commences flowering in August and bids fair to continue until frost. The main stem attains the height of 6 or 7 feet, and near the ground is about ⅝ or ¾ of an inch in diameter, and square-fluted on the sides; the flowers are purple, with only one petal, and that only on the top side of the flower pod. The bees visit it by thousands from early morn till night. Will you please to give it a name in the columns of the JOURNAL. I also send you a few pods of ripe seed from the same." G. M. WOODWARD.

The plant enclosed by Mr. Woodward is *Scrophularia nodosa*, called also figwort. It is abundant on low ground throughout most parts of the country. Not only is it interesting from Mr. Woodward's standpoint, but its mechanism is very curious, and has long been an object of study to the botanist. C. E. BESSEY

State Ag'l College, Ames, Iowa.

"Is there not some fear that we shall soon stock the world with honey, and that it will become a drug in the market?"
JOHN EMERSON.

No! The market has not yet been developed to one-tenth of its capacity. Every locality should be worked, till this wholesome article of diet shall find a place on every table. The price will come down, but there is no doubt that it will become a staple article like sugar, at no very distant day; and there will be more made than now by the *raiser*. The law of supply and demand will regulate that.

Please tell me which is the best time to commence bee-keeping? Is it not as well to buy now, when bees can be obtained cheap? JOSEPH SCAMMON.

No. It requires skill and care to carry them through the winter, and you should prepare yourself by "reading up" the subject of bee-culture during the winter, and then in May you can safely begin by purchasing one or two hives. Go slow. Understand that to be successful you *must* study the subject well, and thoroughly. If you cannot get the larger works, procure a copy of the first Vol. of this JOURNAL, and one of the manuals, as advertised elsewhere and you can from them get sufficient information to commence.

Pointe Coupee, La., Oct. 10, 1876.—"I send you a specimen of a fine honey plant. I never saw but one stock of it. The bees have been on it from sunrise until sundown for over a month, and to-day it seems only just begun. They just swarm on it. It grows six feet high, the top from this one root is 4 feet in diameter." W. B. RUSH.

It is *Eupatorium serotinum*, a common plant in alluvial ground; it is a relative of bone-set and also of white snake-root.

Ames, Iowa. C. E. BESSEY.

AMERICAN BEE JOURNAL,

DEVOTED EXCLUSIVELY TO BEE CULTURE.

VOL. XII. CHICAGO, DECEMBER, 1876. No. 12.

The Centennial Honey Show.

It is not very flattering to the bee-keepers of the United States to say that the only exhibits of honey at the Centennial, were those of Capt. J. E. Hetherington, of Cherry Valley, N. Y., and Mr. J. S. Harbison, of San Diego, California.

The Cherry Valley apiary, of Capt. Hetherington, made a fine display of excellent white clover comb and extracted honey and beautiful cakes of wax.

The exhibit of California honey, from Mr. Harbison's apiary, was tastefully arranged in a neat case, containing beautiful specimens of comb honey.

With the display of "California Produce" by Mr. Joseph Newman, we noticed some comb honey, also from the apiary of Mr. Harbison.

The largest display of apiarian supplies was that of Messrs. George Neighbour & Sons, 149 Regent St., London, England. It comprised their cottage hive, observatory hive, cottage frame-hive, divisional super, sectional boxes, feeders, wax guides and plates for making them.

An examination of these was very interesting to one familiar with our American inventions. The "Cottage hive" is of rustic appearance, and neatly made of straw, strengthened with hoops, fitting closely to the wood. It is a two-story observatory hive. It has three windows in the lower story, with a thermometer to indicate the temperature; showing the bee-keeper when to open the three entrances to the upper story, over which there are three large bell glasses to be filled with surplus. The upper story fits over these glasses and may readily be removed for inspection. The bottom board is hinged to the lower story.

The "frame hive" has movable frames fitted with staples to keep them at regular distances, resting on a zinc ledge above.

The "frame unicomb hive" is a novelty which must be seen to be appreciated. It is constructed with glass sides (for observation) and protected with Venetian blinds.

The "divisional super" is very much the same as our sectional boxes. It contains 7 sections or frames; the entrance being through perforations in a sheet of zinc, large enough to admit workers, but not the queen or drones.

The other things exhibited by this enterprising firm were well worth the attention of bee men, but we cannot further particularize.

In other parts of the building we noticed the following:

A model of the Dzierzon-Belepsch observatory hive, containing frames.

The "Centennial bee hive" of Dr. Worrell, West Chester, Pa.; a double-story observatory hive, with iron frames.

The "Champion bee hive" of C. E. Bost, of Davidson College, N. C. It is a peculiar invention, and one not easily described.

C. C. Van Deusen, Sprout Brook, N. Y., exhibited his bee-feeder and other apiarian supplies.

R. R. Murphy, Fulton, Ill., had his extractor on exhibition, as well as F. M. Chapman, Morrison, Ill. These are practically the same machine.

A. C. Attwood, of London, Ontario, also exhibited his Canadian extractor.

C. F. Lane, of Koshkonong, Wis., made a good display of the seeds of honey-producing plants and trees, as well as field, flower, tree, grass, and other vegetable seeds. His is said to be the largest establishment of the kind in the world.

East of the Agricultural building, we noticed D. Latchaw's "Union-section extension hive," which contained a strong colony of Italians. Mr. L. was "on the spot" manipulating this colony and showing the advantages claimed for this hive. The frames are the hive proper, having closely-fitting sides and observatory ends. A close inspection of any part of the hive being readily made at any moment, it is fully under the control of the bee-keeper.

On the last day of our visit to the Centennial we were to have met friend Andrews, of Columbia, Tenn., and with him and friend Coe together, inspect Coe's apiary—but alas for all human calculations, through a misunderstanding about the place of meeting we did not find one another, and so did not examine the House Apiary. As friend Coe has already given our readers a

description of it, and will further supplement it with details of results, it is not necessary here to refer to it further. One thing, however, should be mentioned. Mr. Coe has had it on the ground ever since the opening of the Centennial, and has exhibited it to hundreds who otherwise never would have had an opportunity of examining such a thing.

While at the Centennial we met many bee-keepers from almost every part of the Union, and made many very pleasant acquaintances, and trust that next year we shall renew these acquaintances as well as make more new ones.

To Mr. Coe, THE AMERICAN BEE JOURNAL, as well as many bee-keepers, would render thanks for favors and kind attentions. "So mote it be."

E. GALLUP, who for years wrote largely for THE AMERICAN BEE JOURNAL, as a contributor, writes us as follows: "I am now out of the bee business entirely; not because it did not pay, nor because I did not like the business; but because I have gone into another business that occupies my entire time."

☞The Centennial Show, in the language of all visitors, was *simply immense;* creditable alike to the thousands of exhibitors and the youthful American Republic. As our readers have seen detailed accounts in other papers devoted to "news," we shall not take up our valuable space to speak of it further than our branch of industry is interested.

☞As the P. O. Department now refuse to exchange stamps our friends will please not send stamps of higher denomination than three cents each. Ones, twos or threes are always acceptable for amounts less than one dollar. For one dollar and over send bank bills, postal order, or draft. Don't send "checks" on country banks, as these cost us 25 cents each to get into currency.

☞Several valuable communications intended for the present number are crowded out by the report of the National Convention and the prize essays. All will appear in the January number. This will explain to ALL correspondents the cause of delay.

☞A special arrangement has just been consummated, by which we can supply the following for 1877:

A. B. J. and Novice's *Gleanings* for $2.25.
A. B. J. and King's *Magazine* for $2.75.
All three for $4.00.

CALLERS.—B. Stover, Winnebago Co., Ill.; he has 130 hives, and reports an excellent yield and increase.——T. S. Bull, Porter Co., Ind., has 400 colonies, and has had a large yield and found ready sale at satisfactory prices. He winters in the cellar of his workshop, gives fresh air to it often, and has not lost a colony for several years.——W. J. Ronald, Louisa Co., Iowa, called with a frame and honey box, but as we were away at the Centennial Convention we did not see him. He promises, however, to send samples to this office.——C. Kendig, Dupage Co., Ill.; had 40 swarms in the spring; has 70 now and has taken 2,000 lbs. of honey, mostly comb. He winters successfully in a cellar, well ventilated and so made that changes of weather cannot affect it.——Henry King of Kalamazoo Co., Mich., has 25 swarms from 6 in the spring; though he has paid but little attention to them, he has received a fair amount of surplus.——We had an interesting visit from James Heddon. To say that he is returning to old box hives is not strictly "the truth." His hobby is a peculiar hive, something like the British "bar hive," and is more easily manipulated than most persons imagine. Friend Heddon will test it and report, and if he succeeds in showing less expense and more profit, he will deserve the thanks of all bee-keepers.——F. Grabbe, who was located in Wilmette, in this county, has gone to Louisiana with his bees, in the interest, we understand, of a gentleman of this city, who contemplates establishing a large apiary there, under the supervision of friend Grabbe.———Miss S. L. Vail, of Keokuk Co., Iowa; who has 75 stocks from 47 in the spring, besides 700 lbs. comb and 300 lbs. of extracted honey, and reports a good season.——F. M. Chapman, Morrison, Ill.; he has now only 50 colonies, having run his apiary for increase this year, and found for it a ready sale. His bees are in good order; he winters in a repository built expressly for them.

☞In this number we publish the four essays that were read before the National Bee-Keepers' Convention at Philadelphia. The first (by Prof. A. J. Cook) obtained the prize offered. A careful reading of them all will benefit those who seek light on this all-important subject.

☞We have received an interesting report of the proceedings of the German and Austrian Bee-Keepers' Convention from R. Mayerhoffer, Esq., editor of the *Bienenvater* in Prague, Austria. It will appear in the January number.

Our Exchanges.

GLEANINGS IN BEE-CULTURE.

In our last issue we stated that Novice intended to winter his bees out of doors. "Chaff" is his hobby now. He gives the following as his method of

PREPARING FOR WINTER.

"A frosty morning is an excellent time to remove a set of section boxes and put on the chaff cushions. Approach the hive quietly, and get your screw-driver under the case of sections, or the upper story containing them, and with a quick movement you can snap all attachments, and get the boxes off before a bee has waked up; but now comes the time for action. Have your sheet of duck in readiness, and before a bee can get to the side of the hive, have the cloth tucked closely down all round; put on your cushion, then the cover, and you are all right. If it is an upper story, you can put it back, or another, before you put in the cushion, be sure that you get it all fixed before the bees have time to boil out. They will very likely gather out at the entrance, but don't insult their dignity by walking before them, and all will be well. If you are clumsy, and do not get things fixed expeditiously, you may find hybrids rather worse in frosty weather than at any other time. In fixing our old standard or long hive, we took too much time, and all hands waked up to such an extent that they took entire possession of the corn-popper smoker, and came at us like a very young hail storm. Many of the yellow stocks, will hardly stir, when we raise off a whole set of section boxes."

Novice also gives the following as his method of

PREPARING BEES FOR SHIPMENT.

Be sure the colony has old, strong combs, not too heavy with honey; the great bulk of stores should be near the top bars. If the combs are all right without breaking the fastenings made by the bees, all the better, and you have then only to make the frames secure as they are. We prefer pushing sticks, sawed to the right length and thickness, between the end bars of the frames; this makes all solid and secure, and yet the sticks can be pulled out without removing the combs. Lay another piece across the frames at each end, and fasten it with screws, and the hive will be safe, even if it should be thrown upside down. If the hive has a portico, cover it with wire cloth and let the bees get out in it if they wish; if it has none, cover the frames with wire-cloth, and fasten the cover a little open. If the weather is warm, and the colony very strong, it will be safer to allow them to leave their combs and cluster in an upper story, but ordinary colonies in cool weather may be simply confined with wire cloth. The surface of wire cloth must be large enough so they cannot pack densely over it, or they will be ruined. We have many times seen them, when released, crawl out of their hives in every direction in the dirt, completely demoralized; from insufficient ventilation."

LARGE AND GOOD CROP OF HONEY.

J. S. Hill, Mount Healthy, O., has a honey crop this year of 10,000 lbs. He commenced in the spring with, I believe, 84 stands. He raised also 6,000 lbs. of machine extracted honey, as nice as anybody has, and you know we feel a little proud of the quality of the honey raised in this part of the country. I bought all of his honey, and I am sure I have never before seen as nice a lot of comb honey as Hill's. There was about 3,800 lbs. in combs weighing from 1½ to 1¾ lbs. each. Every comb in the lot was perfect and separate from the rest; it is a model lot of comb honey, and it would do you good to look at it.—*C. F. Muth, Cincinnati, O.*

MOONS' BEE WORLD.

CARNIOLIAN BEES.

Ch. Dadant says he received his expected shipment of Carniolian bees, but only three were received alive. He describes them as follows:

"These queens are as dark as common queens, with some narrow strips of dark leather color. But they are very large. Generally after a long journey the queens are small. The Carniolian are as big as good laying queens, of course it is to be presumed that they will enlarge when rested and laying. The size explains the great fecundity attributed to these queens. Yet it is to be regretted that they are so dark, for their color will prevent their introduction among the lovers of yellow bees. These bees are received for experiments and not introduced for sale."

BEE-KEEPERS' MAGAZINE.

The November number has among other things the following advice, by the Rev. J. W. Shearer, for

STARTING AN APIARY.

"A novice in the business should never attempt to start on a large scale. He should begin with not more than three hives, and increase these as his knowledge and experience increases, by swarming and by procuring from abroad, if thought desirable, after two years experience. The easiest way to get a start is to secure a swarm from some neighbor.

A first swarm is always to be preferred, and if possible from a hive which was known to have swarmed the last year, for then the old queen will be in her second year, vigorous and at her best. A small, late second swarm should be passed by in purchasing. Arrange the frames 1⅜ inch from centre to centre, tilt the hive forward at an angle of 20 or 25 deg., and they will be almost certain to build straight on the comb-guides. If an old hive is purchased let it be a heavy one in the spring with straight comb coming entirely down to the bottom of the hive. Carry it home in your arms or in a spring wagon. Remove it very early in the morning or late in the evening when all the bees have returned home, that none be lost. Blow a little smoke under it, reverse, cover with a piece of cloth which may be fastened by tacking a string around it or strips on the ends, place it on straw in a wagon with the comb running lengthwise the vehicle, drive slowly home and there is

no danger. Handle carefully, and transfer into a movable comb hive, and you are ready to study the mysteries of bee-keeping. Sometimes a start is obtained more easily by taking on shares from a neighbor who already has them in improved hives. They should always be moved at least a mile else many will return to the old stand and be lost. Sometimes bees may be captured from the wood by alluring into an empty hive, entrapping and furnishing a queen as already described. Hives may be increased by having nuclei with fertile queens in the fall and extra combs filled from strong colonies, and increasing to the proper size by "taking up" hives for your neighbors who work on the old plan, and uniting them with the nuclei in the manner heretofore recommended. Be careful to insert combs having pollen into each hive thus made."

J. P. Bruck, our popular friend and president of the county bee-keepers' association, is still at the Los Angeles hotel, in our city, in quite feeble health. Mr. Bruck has done much for the advancement of the apicultural interest in this portion of the State, and we trust that he may be spared for many years of usefulness in the hive of industry. —*Los Angeles (Cal.) Herald.*

Our Letter Box.

Pointe Coupee, La., Oct. 30, 1876.—"Nice and warm weather, and bees gathering honey from aster." W. B. RUSH.

Fairfield Co., Conn., Nov. 13, 1876.—"My bees have yielded 1,000 lbs. of comb and extracted honey this season, besides increasing from 23 to 34 colonies. They are now all in good condition for winter."
S. W. STEVENS.

Santa Clara Co., Cal., Nov. 1, 1876.—"I use the Langstroth hive, with shallow frame, 7 inches deep. The honey-producing season in this part of California has been very good; I have taken from 3 swarms 670 lbs. of extracted honey, and could have taken 100 lbs. more; have increased to 9. Lost by fire in the first season 17 swarms."
S. S. BUTLER.

Hamilton, Ontario, Nov. 13, 1876.—"This has been a grand year for honey in this section. I have extracted, on an average, 100 lbs. per hive, and my bees are in splendid order for winter, with 40 lbs. each, more honey than they will use in my cellar this winter."

"I was much disappointed when arriving at the Centennial on the 6th of Oct. to find an industry so important as that of bee-keeping so poorly represented. But had I not been called away on the 22nd, I might have seen more, as the 25th was the day for a special show. The show of honey in small glass boxes was grand, from Capt. Heatherington of N. Y.; and Mr. Coe's Bee House, which I am not yet convinced is much improvement, though Mr. Coe takes great pleasure in showing all its good qualities, and any other information in the business. He seems to be the only bee commissioner there." W. G. WALTON.

Warren Co., Iowa, Nov. 1, 1876.—"I had 9 colonies last spring, increased to 31, and extracted 1,400 lbs. of honey. They are now in good condition. I use the Langstroth hive." D. E. BRAUGTT.

☞ This number contains "Title page and Indexes" which will be found very convenient for binding the year's numbers. Taken as a whole the volume for 1876, now complete, contains much valuable information.

☞ H. F. WALTON, Grant County, Wis., writes that he has received Vol. I. of THE AMERICAN BEE JOURNAL, and that he is very much interested in its perusal. Those who have never read it should procure it, as there are now but a few copies left, and those few fast getting *fewer*.

☞ From 1,500 to 2,000 of our annual subscriptions run out with this number. We trust all will be prompt in renewing. We intend to make the next volume better than any that has ever preceded it.

The National Convention.

A goodly number of bee-keepers met at Coe's House Apiary on the Centennial grounds, Philadelphia, at 10 A. M., on Oct. 25th, and organized temporarily as follows: R. Bacon, President; J. H. Nellis, Secretary, and J. P. Moore, T. G. Newman, J. S. Hill, J. S. Coe, and R. Bacon Committee of Arrangements. Adjourned to meet at the Atlas Hotel at 7 P. M.

The committee arranged the following programme for the evening meeting—topics for discussion:

Introducing Queens—opened by Dr. E. Parmly, of N.Y.

Uniting Weak Colonies—G. W. Zimmerman, of Ohio.

How to Control Swarming—R. Bacon, of N.Y.

How to Produce the Largest yield of Honey per Hive—J. S. Coe, of N. J.

How to obtain the most Industrious Bees—J. P. Moore, of N. Y.

How can the Interests of the National Bee-Keepers' Association be best Promoted—J. S. Coe, N. J.

On Thursday evening, the grand topic for discussion was "Wintering of Bees," and the reading of prize essays, followed by discussion.

WEDNESDAY EVENING.

INTRODUCING QUEENS.

Dr. E. Parmly (N.Y.) remarked that in introducing queens there had been successes and failures in every method published. He had had many years experience, and was usually successful. He took a piece of wire gauze 3 or 4 inches square, and bent it into a cage, taking out several wires one way, and placed the cage containing the queen over the hatching brood, to get heat from below.

Pres. Bacon (N.Y.) said he had not been successful, and wanted light.

J. P. Moore (N. Y.) said he placed the cage between the brood combs for 48 hours, and was generally successful.

J. H. Nellis asked if caging queens did not sometimes result in their starving. He recommended that when caged, food be put in isolated position, from which the queen could feed. When bees are intent on rearing a queen from their material, they sometimes refuse to feed the queen in the cage.

G. W. Zimmerman (O.) had introduced queens in cages from 36 to 48 hours, (if bees clinched the cage, it was not safe); he then inserted a piece of filled honey comb into the cage and when they had eaten through this, it was safe to let her crawl out into the hive. He thought it advisable to cage the queen always, for sometimes the bees hug her to death.

J. H. Nellis remarked that he would not cage a weak queen.

T. B. Parker (N. C.) had caged a weak queen 60 hours, that had been out 14 days, and she did well. He said queens were often released too soon.

J. S. Coe (N. J.) had caged a weak queen with no workers, that had been injured by a fall. She was fed by the bees, and did well.

T. B. Parker often let a queen loose outside the hive and let her run in.

G. W. Zimmerman had removed black queens and liberated Italians in that way.

A. L. Stanton (N. Y.) pinched the old queen to get the scent; this he rubbed over the Italian queen and immediately released her. He always selected his best queens and introduced 4 out of 6 successfully in that way. Rearing queens wasted too much valuable time in the busy season.

UNITING WEAK COLONIES.

G. W. Zimmerman had made up 40 to 60 full colonies from weak ones, and 7 colonies from nuclei, and wintered them all safely. He filled them with liquid sweets, supplied them frames of comb a little before sundown, when it was a little cool; caged the queen between the frames, and shook the bees down and left them till morning, when they would be all ready to work.

H. L. Leonard (Vt.) asked Mr. Z. if he took the queens away?

G. W. Zimmerman answered that he removed both queens, but introduced one at once. If done late in the season they would create heat by clustering, before morning. He disorganized the stronger colony and put in the weak one with it—and had always done it successfully.

J. L. Beal (Pa.) asked if Mr. Z. confined them in a dark room?

G. W. Zimmerman—Yes; when necessary.

J. L. Beal said he confined and took them to a dark room and united—and after 48 hours to 3 days there was no danger of their returning to their old stands. He let them destroy one of the queens.

Mr. Bradley (Mass.) had doubled 20 or 30 weak colonies. He removed the queens and shook them up on a cloth and let them run into the hive. He found they did not quarrel. He always caged the queen from 12 to 24 hours.

N. N. Betsinger (N. Y.) practiced removing the queens and then throwing them together.

T. B. Parker (N. C.) united colonies successfully by putting a board between them, with a hole in it, late in the evening, and closed the hole for 24 hours, then opened the hole and let them crawl through to the other colony.

Jas. Williams (Tenn.) united successfully late in the fall. The hives being twenty to thirty feet apart are moved nearer every 2 or 3 days, till they are close together. He then removed the queens, took a fresh hive and put in the middle frames from each hive alternately, and then gave them a queen.

Mr. Crane (Vt.) said that it may be a good way, but it is tedious. He took away the queens and stores from weak stocks and let them realize that they were robbed of all but their hives, and then fed them with honey and put them together.

HOW TO CONTROL SWARMING.

R. Bacon (N. Y.) had tried and found how difficult it was to prevent swarming. When they had the fever on, it was hard to get it off. His best plan was to open the hive, after the first swarm came out, and destroy all the queen cells in the frames, and then hive the swarm in the old hive. He had no failures by this plan, and it was an important matter in getting a large yield of box honey.

J. H. Nellis (N. Y.) remarked that it was essential to have one swarm. Then it would be well to have "*cool* headed bees." Some lazy Italians like to swarm, but all preferred cool, industrious bees! He found that they did not swarm as much when a loosely-fitting frame was used. He kept them at work by piling on boxes, and cutting out the queen cells.

J. S. Hill (O.) said that the swarming fever varied with the seasons. He controlled swarming by adding box room as needed. He provided a fertile queen, destroyed all their queen cells and kept them at work in boxes.

G. W. Zimmerman had 175 colonies, but never saw one of them in the air. He kept them shaded, and by keeping the brood chamber cool he prevented swarming.

Jas Williams (Tenn.) had his hives painted a different color on each side—red, white, blue and gray—with a movable alighting-board on each side, which he could so manipulate in the middle of the day as to control swarming by having the hive with four divisions, and compelling those flying out to return to any compartment desired. He let them use the different entrances for ten days at a time, and thus by rotation entirely controlled swarming. He had 300 colonies.

HOW TO PRODUCE THE MOST SURPLUS.

J. S. Coe said that the point was how to produce the largest yield of honey for a term of years—how to make the most money from the bees as a regular income. If swarming can be controlled and colonies can be successfully carried through the winter and spring, an average yield can be depended upon. Healthy, strong colonies in the spring, full of brood, and in condition for gathering when fruit bloom comes, were indispensible. This state could be obtained only by feeding early in the spring; and thus having them ready when fruit bloom came to gather it in.

L. C. Root (N. Y.) remarked that it was absolutely essential to have colonies strong in the spring, in orper to be profitable.

HOW TO OBTAIN INDUSTRIOUS BEES.

J. P. Moore (N. Y.) remarked that the only way he knew was to get good queens

and as hybrids were the most industrious bees, he should say—hybridize.

Mr. Crane (Vt.) found that many colonies were unproductive, and that bees differed in constitution and industry. The safest way was to breed from the most vigorous colonies and increase to strong stocks.

L. C. Root (N. Y.) had received 60 untested queens from H. Alley, and all were very superior. The way was to breed up, and avoid breeding in and in. He felt sure that several were breeding very carefully and with a large percentage of pure Italian bees of industrious, prolific character.

THE NATIONAL ASSOCIATION.

J. S. Coe (N. J.) remarked that the National Association should be supported. The chicken interests supported its national association and took means to perpetuate the organization. Each State should be represented by delegates. The State organization should be composed of delegates from county bodies—and they from township societies. The great questions of how best to dispose of our honey, belong to such bodies. We should study to bring producer and consumer together.

Dr. Parmly (N. Y.) said that chickens were gotten from all parts of the world—and we should get bees not only from Italy but Africa, and all parts of the world, to improve our stock. The National Association should import, experiment and find out what to use and what to discard.

J. H. Nellis remarked that by organization we could do many things that now was impossible. The plan mentioned by Mr. Coe was the best way. Delegates should be sent and their expenses paid. They could be instructed to have various themes discussed, and if a fund was provided, prizes could be offered to bring out the best intellect in the country, and thus perfect the science of the apiarist.

R. Bacon remarked that honey was not second to poultry in importance, the world over. If a proper stand be taken we can sustain a successful National, as well as State, county and township organizations.

THURSDAY EVENING.

The Association met and as the first business was the election of officers for the coming year, they appointed a committee to nominate them.

While the committee were in session, Thomas G. Newman remarked that one of the great questions now agitating the minds of bee-keepers was—"How to dispose of honey to advantage." He said that the price asked was no doubt a *fancy* one, and that the sooner it was lowered, the sooner honey would be taken from the list of "luxuries" and be brought into general demand. Now only the rich and extravagant used much honey for the table—but the time was not far distant when it would be used by families of moderate means, and take its place beside that of butter, cheese and cream. If bee-keepers would create a home demand for their honey, by offering it at a reasonable price, they would still get as much as they now do, and save the commissions of middle men, and at the same time be vastly increasing its consumption.

L. C. Root remarked at some length upon his mode of treatment. He said that he permitted swarming just as little as possible, and prevented the desire to swarm; he had taken 10,271 lbs. of honey from 119 colonies.

The committee reported, and the following were duly elected officers of the National Association for the current year: W. J. Andrews, Tenn., President. N. N. Betsinger, N. Y.; J. S. Coe, N. J.; R. R. Murphy, Ill.; G. W. Zimmerman, O.; J. Vandervoort, Pa. — Vice Presidents; J. H. Nellis, Secretary; J. S. Hill, Treasurer.

New York City was selected as the next place of meeting, and the third Tuesday of October, the time. J. S. Coe was instructed to make all necessary arrangements.

The Secretary was instructed to issue an address to the bee-keepers of America—earnestly advising them to organize, and protect their interests; and also to send one or more delegates to the next National Convention, instructed as to how it can best advance the individual interests of bee-keepers at large.

Some desultory conversation was then indulged in by those present, and then a vote of thanks was passed to the proprietors of the Atlas Hotel for so liberally placing its comtortable parlor at the disposal of the Convention.

The essays, for which the N. E. Bee-keepers' Association had offered a prize, were then read. The prize being already awarded by the committee to the essay of Prof. A. J. Cook, of Lansing, Mich.

L. C. Root (N. Y.) remarked that one of the principal points for successful wintering was *perfect quietude*. If the bees were in good condition he never opened his depository from Nov. 15 to May 1. He kept a thermometer suspended through a hole in the floor above, and the temperature did not vary all winter only between 45 to 50 deg.

After some further discussion the Convention adjourned to meet in New York on the third Tuesday in October, 1877.

[Owing to the wonderful grandeur and extent of the display in the Centennial Exhibition it was deemed prudent only to hold sessions at evening. This, together with the natural pressure of business, makes this report rather brief.] J. H. NELLIS, *Secy.*

For the American Bee Journal.

The Prize Essay.

The centennial committee of the North-Eastern Bee-Keepers' Association appointed as the committee of judges on the essays: J. P. Moore, of New York; H. Alley, of Mass., and J. S. Hill, of Ohio.

The judges convened and performed their duties on Thursday evening, Oct. 26.

Four essays were presented, all very useful and instructive papers. The gentlemen who sent the essays are Rev. E. C. Briggs, of Iowa; Dr. W. B. Rush, of La.; Wm. H. S. Grout, Esq., of New York, and Prof. A. J. Cook, of Mich.

After due consideration, the committee awarded the prize to Prof. A. J. Cook, of Mich.

This seemed a worthy dhcision. We can only regret that low finances restrained our giving a prize to each worthy competor. We can but hope that the unsuccessful may appreciate their reward in the good done the mass of apiarists who have failed heretofore in wintering their bees.

J. H. NELLIS,
Sec'y of North-Eastern B. K. Association.

Wintering Bees.

THE PRIZE ESSAY READ BEFORE THE NATIONAL BEE-KEEPERS' CONVENTION AT PHILADELPHIA, PA., OCT. 26th, 1876.

Few manual labor pursuits possess the fascination or the financial possibilities that may be justly claimed for apiculture. Remove from this the uncertainties, with which the late disastrous winters have served to invest it, and it would stand paramount. Hence it is that this subject of wintering bees is of leading importance and well deserves the earnest thought, careful study, and accurate experiments of the most able of our practical and scientific men.

In a brief consideration of this important theme, let us examine the physiological facts that bear upon it, glean what we may from the fields of experience, and then see if we may come to any conclusions that appear to be justified by the premises.

It is a physiological fact, without exception among animals, that exercise and the power to generate any considerable amount of heat, requires food and necessitates excretion. It is further true that bees, unlike most insects, are like the higher animals, more or less active the winter through, and can only subsist in a temperature independent of the surrounding media, which is maintained by the bees themselves. If the temperature of the surrounding media is neither extremely high nor extremely low, that is if it keeps at the proper uniform standard, the bees, like higher animals in like condition, will exercise little, will take little food—and by food I mean all nourishment, including oxygen—and will consequently excrete very little, either in form or fæces, or by evaporation from the general surface of the body. It is further true that bees, from the fact of their confined situation in winter, cannot excrete excessively without rendering the atmosphere about them unwholesome and even poisonous; this with undue fecal deposits is sure to bring disease. Hence our first truth: successful wintering demands a uniform temperature.

It has already been stated that bees take food during the winter. Whatever the temperature, some food is consumed. Now it is a physiological fact, unquestioned, that good health among all animals demands proper food. As tainted water often brings dysentery and death to hosts of our own unfortunate brothers, so no less will unwholesome food bring disaster to the denizens of the hive. Hence our second truth: to winter safely, our bees require sufficient stores of good wholesome food.

The student of bees need not be told that the worker bee is possessed of no great longevity. A worker bee three months a laborer is aged and imfirm. It is equally patent that winter is the trying period when the "struggle for life" is sure to come to the bees. Does the leader of a trying campaign call to his aid men feeble with years, whose very age makes them topple and fall under the first burden that is laid upon them? No more should the apiarist expect a colony of old bees to be able to stand the trying ordeal of winter, and build up the depleted household to its wonted strength as spring draws on. Therefore we announce our third truth: bees to winter well, must be strong in youthful vitality as well as in numbers.

It has been stated that excretion is a certain result with bees, even in winter; though this will be slight if the temperature be kept just right. To prevent any ill-effects from an accumulation of these elements of destructive assimilation—water and noisome gases—there should be absorbents above the bees, which would not only absorb the moisture but permit the gases to escape, without exposing the bees by a too rapid removal of heat. Our fourth and last truth then: covering the bees with some absorbing material that is at the same time a poor conductor of heat, is condusive to safe wintering.

Now let us see if recent experience has sustained the above conclusions; for if we are sure of our diagnosis we may feel confident as to practical results.

And first as to temperature. It is a significant fact that those winters which have been most disastrous have also been characterized by extreme cold. I am well aware that many colonies of bees perished during these winters that were independent of the cold. But we must remember that this is a complex subject, and that several elements must be considered in solving the problem. And just here I would call attention to the fact that many apiarists, because of the complexity of this subject, and because it would not yield a simple solution, have become alarmed and cried epidemic. It is not necessary to show that cold is the only cause of disaster. I myself lost heavily the first cold winter, with my bees wholly protected against the extreme cold. Yet the reason of the mortality was not difficult to find, as will appear in the sequel. During the terrible winter of 1874-5, terrible alike for cold and for bee-mortality, I supervised the preparation of four apiaries for winter. With my own I tried the experiment of putting them into a new depository which I supposed to be frost proof; but during the unprecedented cold of Feb., when the thermometer on three occasions went 25 deg. below, and once to 32 below zero; the mercury in my building even went below zero, near which it remained for a number of days. My bees all died. All three of my neighbors, two of whose bees were not so strong as mine, whose bees I had prepared in precisely the same manner, except that they were amply protected against the severe cold, passed the winter with no loss.

During the winter of 1872-3 I also prepared my own bees and those of one of my neighbors for winter. These were amply protected, and came through not only without loss but in excellent condition. So far as I know there were no other bees saved anywhere in the town.

My friend Mr. John Davis, of Delhi, has passed all these winters without loss. He protects his bees, never allowing the temperature of his cellar to fall below freezing point.

That able and far seeing apiarist, the lamented M. Quinby, was one of the first to discover this fact; and here as elsewhere he gave advice, that if heeded would have saved great loss and sore disappointment.

I could give much further evidence of the same kind were it required, but will only say that though I have studied this subject widely and closely, I have yet to observe aught to invalidate the above stated truth.

We next come to view the second factor in safe wintering: sufficient and wholesome food. That bees need some food to stand between them and starvation, experience has too often proved. This fact will receive universal credence. But that the stores are not always of a suitable character though just as true, is not well understood.

The autumn of 1871—the year of Chicago's great calamity—will ever be memorable throughout our northern States for its unparalleled drouth. Every green thing, flowers included, shriveled for want of moisture. Thus bees were cut off from their usual source of honey. During the same autumn there were an unusual number of plant and bark lice. The willows, the beeches, the tulip trees, in fact almost every plant supported some species of these families of vegetable parasites. The same excessive drought that blasted the flowers favored the development of these withering insects. The bees ever eager for sweets, not able to sip from the flowers, gathered largely from these lice, which secreted a sweetish substance from their bodies. Many observed, and I among the rest, a large amount of uncapped honey or stores as they prepared their colonies for winter, and wondered at so unusual an occurrence. During the succeeding winter I experienced my only other case of disaster in wintering. To be sure the winter was cold, but my bees were so protected that they felt it not. My twelve colonies went into winter quarters quite strong and in fine condition every way, except that they were provisioned with this uncapped honey, which I supposed would be fully capped, as there was yet abundance of time after I last looked at them in the fall. In February I examined my bees and to my great surprise, for this was my first misfortune with bees, I found eight of the colonies dead. I was no less surprised to find the honey still uncapped. Bees usually gather honey and leave it to be capped when the condition becomes such as to warrant it. This never reached the condition of good honey. May this not be why it never was capped? I tasted of the honey and found it nauseating in the extreme. I believe that this unsuitable food killed my bees. What makes this seem more probable is the fact that one of the four remaining colonies, all of which seemed equally diseased and feeble, from which I took all the stores, replacing them with good capped honey, stored early the previous season, commenced at once to revive, recovered entirely before spring, and gave a net return of over seventy dollars the succeeding season. The remaining colonies, which were cleansed of dead bees, permitted to fly, but which retained their unwholesome stores, soon perished. The following spring I examined several defunct apiaries in this vicinity, and in every case found the same condition of ill-tasting stores. Those who, like Mr. Davis, saw that their bees had only good capped stores and were well protected did not suffer loss. Hence I think I am safe in affirming that in this region, one of the chief factors which wrought the disease of that year was unsuitable food.

Our third truth that colonies should be plenteous in young bees as winter draws on, is so compatible with reason that it seems hardly necessary to substantiate it with experiments. In my own experience I have only negative evidence. I have always kept my bees breeding well into autumn and have never suffered by spring dwindling. Mr. Davis reduces the number of his colonies each autumn by destroying the old bees and uniting the young ones, till each colony is strong, and has never suffered loss. A year ago I thought I would put this matter to a test in a small way. In one hive I permitted no brood to hatch after the middle of August but kept the colony strong in old bees. The colony was permitted to fly once during the winter, seemed in good condition, yet showed more dead bees than any other colony. They lived till spring when they died, young queen and all, though the queen lived till after every bee had shuffled off this mortal coil. I hence affirm that whenever there is no fall storing so that brood rearing stops in August, whenever the queen becomes impotent so that she fails to deposit eggs to any considerable number, or whenever the autumn honey yield is so bountiful that the queen has no opportunity to deposit, as has been the case here the present autumn, then the careless apiarist is in imminent danger of experiencing spring dwindling.

All experience shows the importance of absorbents above the bees, for what observing apiarist has failed to notice the moisture in his hives in winter which often induces fungus growth, as seen in mouldy comb. Or in cold winters has failed to note the moisture changed to frost, which in severe weather approximates too near the cluster, often keeping them from the needed stores. Of the evil effects of confined gases I know nothing from my own experiments, and know of only one man who has experimented carefully in this direction—my friend Mr. Townley, of Jackson Co., Michigan. His experimenls as given to me confirm the truth enunciated above. I presume in most cases these gases find means of exit and are harmless.

What are the requisites to safe wintering?

1st.—The colonies must be kept in a uniform temperature, which should never vary beyond the minimum temperature of 35 or the maximum of 45 deg. This may be safely secured by placing them in a dry, dark, well-ventilated cellar, which shall maintain the required temperature. Or in a house with double walls, enclosing a space wide enough when filled in with sawdust to be frost proof, even during the severest winter, and so arranged as to be ventilated without admitting the light. The same results may be gained with the colonies on their summer stands, if we but place boxes or boards around and above the hives, leaving a space of a foot or more to be filled in with sawdust, chaff, straw, or shavings, all of which I have used with perfect success. In this case it may be well to use a tube or portico to the hive so that the bees may fly out should the weather be warm for so long a time that the bees would become overheated and uneasy. The same object may be gained by leaving the front of the hive, which should face to the east, unprotected. Could we be sure of sufficient snow so that our bees could be covered deeply the winter through, we could ask for nothing better. I never had my bees do better than when thus protected, during the disastrous winter of '72-3 when my bees, and those of a neighbor which I arranged, were all that survived in the whole neighborhood.

2nd.—The bees should not go into winter quarters without at least 30 lbs. of good capped honey. If the combs contain uncapped honey it should be extracted. If the apiarist has not the requisite amount of suitable honey it will do equally well to supplement his supply by feeding good, thick honey which has been extracted early in the season, or if that be not at his command a syrup made of coffee A sugar of the consistency of honey, or just so that it will not crystalize upon cooling, will answer equally well. Perhaps the most convenient method to feed this is to put it in a bag made of drilling which is tacked to a strip of wood just like the top bar of a frame, except that it is two inches wide and has a hole cut in the centre 1 inch wide and 2 inches long. Hang this between the frames and the end of the hive, then pour in the honey or syrup. The bees will sip it up and store it away as it oozes through the feeder. Of course the bag should not reach quite to the bottom or sides of the hive. The feeding should be done as early as the last of September, so that the bees may have time to cap the cells before the weather is too cold.

3rd.—Any impotent queens or any not first-class, should be superseded early in the season. If the bees stop gathering in August, feed sparingly, as described above. One-half pound daily will suffice. Again if storing be very rapid in August and September, as it is likely to be where fall bloom is plenty, the honey must be extracted, so that the queen may have a chance to deposit eggs. Brood rearing would have entirely ceased in all my colonies the present season as early as August had I omitted to extract. As it is there is brood in nearly all of them to-day—October 18th. Those apiarists about here who have not extracted may look for spring dwindling the coming spring.

4th.—Immediately above the bees there should be placed a quilt made of good factory, and still above this if the hives permit as in most cases they will, there should be placed a factory bag filled loosely with chaff. This may be from 6 to 12 inches in thickness.

So sure am I that the above methods will succeed without fail, that I sell my bees in autumn, warranting them to winter if I can oversee the preparation. A. J. COOK.

On Wintering Bees.

AN ESSAY BY THE REV. E. L. BRIGGS, READ BEFORE THE NATIONAL B. K. ASSOCIATION, OCT. 26, 1876.

Having investigated this matter closely for years, it is my opinion that THE GREAT and ALL-IMPORTANT MATTER NOW to be understood, is, *how to manage the apiary so as to carry the bees successfully through the interval from the first of November to the time of fruit blossoms in the spring.* Give to the bee-keeper this knowledge, and bee-keeping is a success.

For the past ten years I have lived right in the midst of the "bee-disease," by which hundreds of colonies have perished all around me; and up to this hour not a colony has perished in my possession from this epidemic, of which I had the handling in the fall and winter.

Forty-eight colonies were wintered at Ottumwa, Iowa, under my direction in the fall of 1871-72, without the loss of a single colony, when other bee-keepers lost almost their entire stock.

I also wintered twelve colonies at home in 1869-70, when every other person suffered great loss, losing none of them; while with sixteen of my colonies which were taken care of by another person, all but two died.

Having investigated this matter to my entire satisfaction, and believing that I can impart the secret of almost entire success, I shall proceed to give my method in the most concise manner, and I shall first notice

THE CAUSE OF LOSS IN FALL AND WINTER.

There are four prominent causes of loss, viz:

1. Starvation.
2. Intense and protracted cold.
3. Damp mouldy combs.
4. Unwholesome or vitiated winter food, causing the so called "bee-cholera."

The one remedy which I propose, will cover in a measure all of these four causes of loss. But I shall first speak of them separately. First:

CAUSES AND REMEDY OF STARVATION.

Starvation will result where the colony lacks a sufficient supply; of course, in the latter part of winter or before spring flowers come, earlier or later in proportion to the amount of honey on hand in the fall, the larger number perish—after moderate weather comes in the spring. The most fatal time is from one to three weeks before the opening of apple blossoms; and if these fail to yield honey, and cold raw weather continues, the danger increases until the blooming of white clover. Fifteen pounds of honey in the hive in the fall, when they go into winter quarters, will under ordinary circumstances give them an ample supply during the five months from November 1st, to March 31st. But it must be real honey, or good syrup made from white sugar of about the same consistency of ordinary honey. Bee-bread, or any other substance will not answer as a substitute. It must be fifteen pounds of *honey* or *syrup*. The cost of 15 pounds of syrup would be about one dollar and a half, when sugar costs 12½c. ℔ lb; and there is no more excuse for letting a colony of bees starve for the lack of a dollar and a half expense, than there would be to let a calf, sheep or other animal starve, because the food necessary to winter it would cost a dollar and a half.

To feed them this syrup, nothing more is necessary than an ordinary glass tumbler, a piece of new cotton cloth, and some wrapping thread. Pour the syrup into the tumbler up to the brim, lay the cloth smoothly over the top, and with the wrapping thread bind the cloth tightly around near the top of the glass, and then turn the glass bottom side up over a hole, upon three little sticks, so as to keep the mouth half an inch above the honey board; do this just at sundown, and the bees will suck the syrup through the cloth and carry it below before morning. Always keep the glass protected from outside intruders by putting on the cover for the honey boxes. For spring feed, in case of destitution, a jill each day will be sufficient to supply their wants, and will also promote early breeding. At the same time give them rye or wheat flour in some sunny nook, spread out thin upon some

boards or shallow box, as a substitute for pollen, until this is supplied naturally from the trees.

INTENSE AND PROTRACTED COLD

is another cause of great loss of bees every winter. In the early part of winter the combs are often filled with sealed honey down almost to the very edges. When this is the case, the cluster is divided off into several little thin layers between the combs, each not over a half inch in thickness, while the combs themselves are nearly an inch thick, keeping these layers thus separated by this inch of comb and honey, which will become cooled down to the freezing point, or below, by the first severe cold of December, often freezing all the bees in a mass at once when they are left on their summer stands, at the beginning of winter. But if fortunately the bees have consumed all the honey within a compass of about four inches every way from the center of their cluster, their winter preparation is now in the best possible condition to resist almost any degree of cold, until they are compelled to leave the cluster in search of new supplies of food. If there is plenty of sealed honey above them, or at the ends of the same tiers of comb, they will gradually move into contact with this honey, and no considerable loss in bees is realized, for they continue to form a dense mass, filling combs and spaces and the requisite warmth is maintained. But if the cold is protracted for weeks together, after they have consumed all the honey in the combs in which they cluster, they cannot cross over to other combs now filled with frost like a mass of snow, to get to their needed supply; consequently they will either starve to death where they are, or freeze in the attempt to reach their frozen supplies. But if they escape both of these dangers, that is—in the fall *in having no convenient clustering place*, on account of too much honey, or later in winter *in not having enough* honey within their reach—on the recurrence of a warm day the frost may melt, and either stand in drops all through the hive, or run down upon the mass of bees, and accumulate upon the bottom board; in which case cold, damp, mouldy combs will result, causing the bees to gorge themselves with honey to keep up their animal heat, and this in turn will result in dysentery,and a large and often total loss of bees.

This loss caused by

DAMP MOULDY COMBS

can be prevented by the method we shall lay down presently, or by a return to the old fashioned "box hive" or "gum" in which the cluster fills the whole diameter of the cavity in which they are lodged, and is always directly under the honey which constitutes their stores, so that the cluster only has to gradually move upward as the honey s needed, in order always to have it within reach, as long as there is any in the hive. But this shaped hive, notwithstanding its advantage in the above respects, will never be adopted as long as surplus honey is the object, without the use of the "Brimstone pit."

A small amount of ventilation by raising the cover, leaving a crack all around of about an eighth of an inch wide, is a partial remedy, but not an entire preventive in our northern latitude.

But by far the greatest cause of winter loss, consists in the fact, that the bees have gathered and laid up

UNWHOLESOME OR VITIATED FOOD.

This is the great and wide-spread cause of the bee cholera, dysentery, bee epidemic, or whatever the name by which it has been called.

There are about three sources which give a supply in times when flowers are not yielding honey in this country, to this unwholesome or vitiated food for the honey bee. The disease is caused by the so called *honey* gathered from either cider, sorghum juice, the juice of grapes which has burst open from wet weather, or the product of the "aphis" or leaf louse called "honey dew," and some years, doubtless by all these together. None of these juices are gathered by the bees, except in times when the honey fails from all other quarters. Some kinds of honey dew are not only sought greedily by the bees, but appear to constitute wholesome food, when obtained, but I am confident that the so called honey dew yielded by red oak in the fall of 1869, caused most of the wide spread destruction of so many colonies all through the middle states and the far west, while the remainder was caused by the juice from bursted grapes, Also in 1871, after a long dearth of honey, caused by exceeding dry weather, just after the grapes began to ripen, we had excessive showers followered by hot sunshine. By two o'clock the next day, after one of these heavy rains, the scorching sun followed by the excessive flow of juice in the vines, had caused the grapes to burst their skins by the thousand. At least one third of the grapes would burst open within forty-eight hours, and the bees lacking all other forage, sought the grapes by the ten thousand for their spoils. Several pounds must have been gathered per colony during that week. But grape juice is not honey; and the bees were compelled to go into winter quarters with this substitute for their fall and early winter food; the consequence was, the colonies perished by the score when the ordinary treatment was pursued.

Sorghum juice has been gathered under like circumstances, and some falls is doubtless the cause of similar destruction. Vitiated food of any like character, whether cider, sorghum, grape juice, or the sweet juices which sometimes issue from punctures in the bark of the red oak, or the excrescences of the aphis, will all tend to produce dysentery, when the bees are confined to such food, and cannot fly out to void their excrement.

If, as was reported, the bees began to fly out and drop upon the ground, and thus die in early fall, they might have been saved by the use of the "honey extractor." Throw out from their combs all unsealed honey, and feed a little syrup in its stead, and the disease will disappear at once.

But as my plan of treatment carried my bees through each winter safely against all these odds, I will now proceed to give it; and would almost guarantee the safety of every colony put up in the order, and according to the plan of the following

CHEAP AND SAFE WINTER RECEPTACLE.

Have a well drained and dry cellar under the room that you use as a kitchen or sitting-room, prepared as follows: Run a tin tube one and a half inches in diameter, from the bottom of your cellar up through the floor

of your room, and into the back-side of your stove pipe, so that your stove will make a constant draft upon the damp vitiated air of the cellar. And then open a small hole in some part of your sitting-room, or kitchen floor, so that while the heated air in the stove pipe is drawing up the cold and vitiated air from the bottom of the cellar, the partially warmed air of your sitting-room may descend to supply the draft.

It will be seen at a glance that there can no stagnant air remain in this cellar, but it will be constantly changing, and be consequently kept as pure and wholesome as the air which is breathed by the family. Besides this advantage, the air will be kept 10 or 15 deg. above the freezing point, all the winter, at its lowest. A colony of bees in a cellar with the temperature at the freezing point all winter will be worse off than out upon its summer stand; for the honey in all parts of the hive, except within and above the cluster, will be freezing cold, and of course, any bee which ventures to go among these ice-cold combs, would become chilled and perish. Moisture would accumulate and run down upon the bottom board, mouldy combs would ensue, and these together with a constant chilliness of the outside bees of the cluster, and consequent uneasiness, would cause dysentery and death.

When your cellar is thus prepared, choose a warm dry day, after the bees have had a good fly, and after they are all in, just before night-fall, stop the entrance with a piece of paper, and set them one after another into your cellar, without jarring, and disturbing as little as possible otherwise. Slip a four-penny nail under each corner of the honey board, thus raising it about one-eighth of an inch for ventilation. Set the first upon a scantling, thus raising it slightly from the bottom of the cellar. The colonies can then be set one upon another, until all are in their places, mouth outward from the wall; then open a half-inch orifice at the entrance of every hive, and then close up the cellar, shutting out all the light, and your work is done. If this work is done, say by the middle of November, in latitude 40 deg., they need but little more attention until the middle of February, when if they show any signs of uneasiness, they may be set out upon their summer stands, provided a still, warm, sunny day occurs, but by no means set them out on any day when it is cool, cloudy or windy. If their first flight is upon such a day, thousands will be lost, and the colonies very much weakened. Let the themometer stand as high as 50 deg., and the day still, warm, and sunshiny, and they will have a perfect gala-day. Return them to the cellar in the evening again as before, and they should then remain until the trees and shrubs begin to yield pollen, when they should be set out for the summer, if possible, exactly where they stood the previous year, and upon a still, warm, bright day. Such a winter receptacle, and such an airing in February, has in all cases in my hands counteracted all tendency to dysentery, even with such vitiated food as named above. But the directions must be followed specifically, especially in the following points:

1. They must be put into the cellar when the combs are dry, and before hard freezing weather occurs, strong in numbers and with not less than 15 lbs. of good honey in the hive, not counting grape juice, sorghum juice, or cider, if they have gathered any. It would be better to throw it out with the extractor, if you can without exciting others to rob.

2. The cellar must be dry, well ventilated from the bottom, as directed above or otherwise, and kept at a temperature above 42 deg., but not much above 50.

3. Give them an airing the first warm, still, sunshiny day which occurs after the middle of February.

4. Return and keep them within the cellar till pollen can be gathered, the last of March, or the first of April, then set out upon their stands for the season, as before directed.

Ninety-nine out of every hundred colonies thus treated, with a store of good vegetable *honey*, or syrups, will come out of their winter quarters strong in numbers, and healthy in condition; and will not have consumed more than 10 lbs of honey, leaving enough to carry them on until the time of apple blossoms.

But supposing their food is so vitiated that they begin to die before time for winter quarters; or very shortly after they are put in, can they then be saved? Yes. But it will be at some trouble, and expense. Either warm up your cellar by a stove or take your bees, a few at a time, to a dark room that can be warmed up to seventy or more, and then if possible extract all the unsealed honey in their combs, and if you suspect that any of the vitiated honey is sealed up, uncap and extract so as to leave a brood nest not less than nine or ten inches in diameter. But if all their honey is vitiated, then feed moderately thick syrup, made of good white sugar, putting as much food to each hive, as will make two lbs. per month during the time they are to be confined, either all at once, or part at first and the rest when you give them their airing in February. At any time after they begin to show signs of disease, if you cannot do as above directed, remove the honey board and cover the frames with a piece of an old quilt, but invert a glass tumbler filled with good syrup, as directed for general feeding, directly over the cluster and upon the frames only raised up a little, by three or four small blocks from a fourth to a half inch in thickness. If they take in this syrup, which they will do if the cellar is warmed up a little, the disease will most probably abate. This process should be repeated, giving them a pound per colony every two weeks, as long and as often as any signs of the disease appear. Of course keep the quilt closely tucked around the tumbler to keep the bees from becoming chilled. The honey or syrup ought to be about blood heat when fed to them.

But the question will be natuarally asked:

WILL THIS DISEASE BE LIKELY TO RECUR OFTEN IN THIS COUNTRY?

The bees will be likely to be affected more or less in locations where a drouth occurs as long as they have access to grape juice or sorghum juice, or the juice of the apple. But no matter how dry the weather, the bees can never reach the juice of the grape or or apple unless punctured by other insects or birds, or else burst open by hot and wet weather, following immediately after the drouth. For a bee never yet, of itself,

gnawed through the skin of a grape, or an apple.

The cultivation of sorghum is on the decline, so there is decreasing danger from that quarter; besides the bees only take its juice as a matter of last resort. So if there are fall flowers in reach, even but a few, the bees will not take this juice.

The grape juice only lasts four or five days before the injured grapes dry up, or turn sour, when the bees no longer seek to take up its juice. Knowing the remedy, we can avoid the danger, by setting the bees in a dark cellar during this brief interval. Or if only few grapes are cracked open, the danger is so trifling, that we may pass it by with indifference.

SPRING TREATMENT.

If in the spring a colony is found to have dwindled down to a little cluster insufficient to keep up the heat necessary to rear brood, a brood comb should be given them from your strongest stock, with the young bees just issuing, provided there is a healthy queen in the weak colony. Any weak colony should be strengthened in this manner, provided we wish to save them; otherwise unite them with another colony, reserving the best queen for the united colony.

But we will now suppose that it is the first day of April, and the bees are all upon their summer stands ready to begin anew their season's work; but there are no flowers and not likely to be any for 4 or 5 weeks yet. The weak have been strengthened, the hungry fed, and all crevices securely stopped up, except the fly-hole in front, but

THE SEASON OF DANGER AND CARE IS NOT THEREFORE PASSED.

Indeed a very large proportion of the colonies which die, perish between this date and June 1st. But it is not only our object to keep them from perishing, but to make each one a strong, first-class colony. How shall this be done? A little syrup given each day (as above directed) or, every other day, will not only keep from *starving*, but stimulate to *rapid breeding*. We have now —April 1st—just time for the hatching out of two broods, and 15 days over for the maturing of the last brood, before the blooming of white clover.

All the eggs laid on or before the 1st of April will issue on the 20th. If the combs are again filled about the 20th, the next brood will issue about May 10th. These last will be ready to go forth as *honey gatherers* on the 25th, just about the time that white clover begins to open its first blossoms in the latitude of New York.

Let the process then of feeding begin, in about sixty days before the bloom opens which is expected to yield the largest supply of surplus honey; and your bees will be in the best possible condition to gather it. For every ounce judiciously fed before apple blossoms appear, a pound of honey might be expected as the increase. Thus a gill once in two days, in the absence of honey-yielding flowers, will insure against starvation and a double yield of honey at the same time. Also a frame of empty worker comb, from the outside, may be inserted, once in a few days, as the cluster increases, into the middle of the combs containing brood; but we must be careful to have no more combs there than the bees can cover, else the brood would perish if a cold spell should occur.

If the bees are then brought safely to the commencement of the blooming of clover, it may be said of them, the season is passed and the (old) harvest is ended, and our bees are fairly saved.

Henceforth, the *weather*, the *kind* and *quality* of *bloom*, the *skilful handling*, of colonies, as to *surplus honey*, and *multiplication of swarms*, must determine their fate, and the yield of profits in dollars and cents, or golden nectar.

For the present my task is done, and I close by wishing all manner of sweet and blooming flowers yielding the same, to cover the lawns and meadows over which the busy bee may roam with its musical hum; and also to all bee-keepers who truly love its pleasant appearing, the joys of sweet smiling plenty in lands where "milk and honey flow," in ample abundance, both here and in the great hereafter.

How to Keep Bees Successfully During Winter and Spring.

AN ESSAY BY DR. RUSH, READ BEFORE THE NATIONAL B. K. ASSOCIATION, OCTOBER 26, 1876.

How to keep bees seems to be a rather insignificent query, for many times they keep themselves without the aid or attention of man. But to keep bees *successfully*, is the desired object, and the goal to which all aspire. With all our noted apiarians, such as Langstroth, Quinby, Tupper, and others, as leaders in apicultural science, we yet find difficulties to encounter, that their wisdom has not sufficed to lead us to that desired haven—"perfect success."

Their advice has kept us from being dashed against many a breaker, they have given us light in many dark places, opened up new ideas, settled doubts, and added much to the accumulating fund of apicology. While a Huber has given us a bar hive, Langstroth the frame hive, Italy a superior race of bees, America the honey extractor—with all our knowledge, experience, experiments and useful appliances, the cry is still for greater "success." Man is not satisfied, but still grasping, until like Alexander the Great, who after he had conquered all nations, wept that there was no more to conquer.

We have accomplished a great deal during the past twenty years, and our results have been very successful, compared with the other products of vegetation, it being governed by the atmosphere and climate, none of which are invariably successful. Our knowledge of bee-keeping is not yet perfect and we have much yet to learn, but to suppose that we are to reach a point of perfect success is not admissable, for the various conditions that a colony of bees is subject to does not admit of it. But that we may attain a greater success is the desideratum of our essay.

Before wintering we must first prepare for it; certain conditions are requisite to enter upon that season of storms, snows, freezes, etc., which interests a Southern bee-keeper but little, bee moths are his storms, and the lack of honey his freezes. Then first we will consider

HIVES.

They should be made of good material, well jointed and painted, so that there be no place for admission of air, moths, etc., except by the regular entrance for the bees, the Langstroth size of hive is the nearest to a standard for capacity, and is the most popular hive in use. They should be two stories, top and bottom close fitting. Entrance for hives full width for summer and one-fourth for winter. Hives should be protected from the weather by a shed eight feet wide and closed up on the west, north and east so as to protect them from wind and rain. If there be good wind breakers on the sides named, and high enough to break all north and west winds, then the shed could be dispensed with. Weak colonies should be put in the cellar or the so-called bee house. I do not propose, nor aim in this essay, to advise the keeping of a number of colonies in various conditions, but to give directions for wintering good colonies —yet I will refer to wintering queens.

In my own apiary, and in that of many others, where the colonies were properly prepared they came through the winter all right. There are so many variations in the conditions of colonies that it requires great care to have all the different points noticed, for one out of twenty would ruin the colony if unobserved.

PREPARATIONS

should begin about twenty days before the usual time for frost. Examine the queen and see that she be prolific; she should have at least as many as three combs in which to deposit eggs, four will not injure them. If she have not room then take out combs of honey and give empty ones placed in the middle of the hive; should you not have empty combs then use the extractor on those that are least capped. Should the hive contain too many bees and they be hanging outside—then brush them off and unite them with a nucleus in the usual way of uniting colonies; close up the entrance and give plenty of ventilation, and on the evening of the fourth day open them.

Should you leave too many bees in the hive at this time of the season, it will hinder brood rearing by crowding out the queen; then you have old bees to winter with. It is my experience that old bees cannot generate as much heat as young ones. then in the spring, soon after your bees begin to fly they die off, and your colony is so reduced that brood rearing cannot be carried on sufficiently; the hive becomes so weak that it perishes during a cold spring night, and if it does not perish, then it is too weak to swarm or gather much honey; then much depends on the age of bees for wintering. With these preliminaries you will begin the winter preparations. Notice the hive every ten days; see that it is progressing as it should.

Buckwheat and golden-rod will now furnish honey for brood rearing and winter stores, and as soon as

FROST OCCURS

to cut off the honey supply, then make a thorough examination of all the colonies; see that they have a queen; clean out the hive; see that they have seven full (and capped) combs of honey, or combs full at least. Where stocks are not strong unite them with others. Make openings through the combs so that the bees may pass through for honey in cold weather. Holes to be cut should be three inches from the top bar, equal distance apart and from each end. Cut two holes in each comb with a tin tube five-eighths in diameter, see that they still have two or three combs for brood. In extracting at this time, do it about the middle of the day and return the combs after the bees quit flying; close one-half of the usual entrance. If all have not seven frames of honey, then feed them; some hives may have too much while others are short, equalize them, and should you still lack, then feed sugar syrup.

Take of crushed sugar, two lbs.; water, one lb., boil, skim and set away to cool. Have empty combs ready, have a board 16x 24 inches. Take a common 3 lb. fruit can, perforate the bottom with holes, made with a 10d. nail, lay your board with four inches slant, lay on it your comb. Now have the syrup milk warm, add one teaspoonful of flavoring extract of lemon to each half gallon of syrup, stir gently. Now hold your tin can about a foot or more above the comb and with a tin cup pour syrup into this can, passing it around over the comb and as soon as full, turn the comb over; as soon as filled hang it up and let the syrup drain off before putting combs in the hives. In this way you save 20 per cent. of the syrup over the old tin pan or any other way, for it is already in the comb and ready to be sealed up. Your bees are now to

REMAIN QUIET

until about the middle of Nov. or about the time that freezing begins; do not wait until the great frosts come. But what shall be done with colonies that are still weak? Unite them. We often have queens in nuclei that we will need in early spring; these may be wintered out-of-doors, if they are not too weak. Make a hive with four apartments; have the two middle rooms with an entranee for one in front and the other in the rear, the two side ones with an entrance at each side. In this hive you may winter four queens if you have three pints or more of bees to each queen. Have the divisions made of wire-cloth, the entrances one inch by three-eighths, each department to hold three combs, two of honey and one of brood. Protect this hive by wrapping it up with old clothes during severe cold. A noted bee-keeper has adopted this method after trying many times the house apiary and various other plans.

If you have properly cared for your bees, they are at this time in a fine condition, such as plenty of young bees, plenty of sealed honey and a prolific queen—at the middle of November.

Now procure some bagging or old, coarse coffee sacks; if near a cotton mill, then get the bagging which is cheaper. Also some oat chaff, cut oat straw or fine leaves (chaff is the best), also some sticks half an inch square and the length the same as the width of the hive inside. With these preparations you will now finish your

WINTERING.

Open your two-story hives, take out all the combs and empty frames in the second story, if there be any honey brood remove it, put on three sticks across the frames, equal distance apart and open each end. This is to give the bees a chance to pass over the combs. Now cut a piece of bagging ½ inch larger than the inside of the hive; if it be

thick one thickness is sufficient, but if not, then two; put on the bagging, see that it fits well, so as not to let the chaff through; put on the second story and fill two-thirds full of chaff, and close the hive tight, except one-half of the usual entrance. Shade the entrance so that the sun's rays will not enter the hive. The philosophy of this plan is this: the bagging lets the evaporation from the bees pass up through it into the chaff, which is a powerful absorbent of dampness. Some advocate straw mats, but they have their objections; the dampness is not absorbed but carried through the pores of the straw, and in case of hard freezing they are stopped up; also in case of rain and sleet, if they be not covered by a shed; lastly, they are too expensive for a large apiary. I need not stop to explain the cause of dampness in the hive, for all know that after a long freeze if you open a hive you will find a large quantity of frost adhering to the walls of the hive; and if bees are put in a house or cellar and the temperature goes below freezing point, they will show more frost or dampness than if in the open air.

Five points need to be observed in a hive for wintering. A good, tight and dry hive; 2nd, no drafts of air; 3rd, a good queen; 4th, young bees and sealed honey. The 3rd and 4th are more necessary for spring. Some may say that that they can't have the hive to contain young bees, another that he cannot have sealed honey. Well, I have directed you and if you do not come through successfully, then do not blame this essay. Unite a sufficient number of your weak colonies to make one of the proper condition. I would prefer to start into winter quarters with one good colony than four poor ones. If you must take them through, winter them the same as you would queen nuclei, or division hives for wintering queens.

Methinks I hear many asking, "How it is that there was such a fatality among the bees during the past four years?" That is easily answered:—the great success with bees in 1870 and 1871. About this time patent hives and Italian queens had a swarming trade; two new bee journals started: increasing was the order of the day, but in 1872 and 1873 (the winter) a reverse of success came; but not yet daunted the novice increased his bees to infinity again, and the winter of 1873–4 showed a much greater fatality; so in 1874–5 the result was about the same as 1872–3. In 1875 the patent hive business declined terribly, Italians increased, the people refused to be duped any longer by hive vendors; and in 1875 they did not want any increase, but honey, so as to pay for their hives and patent moth traps. And the consequence was less increase, stronger stocks, plenty of honey and little or no disease or loss; and the wintering of 1875–6 was a reasonable success. I am safe in saying that the greatest cause of the disasters for the past four years has been—over-increasing.

After having prepared all your colonies properly, leave them undisturbed until severe freezing sets in, then wrap some old clothing around the hives in which you are wintering queens, and no others need it; then leave them until a big thaw in the spring; then leave the cover off during the day for the chaff to dry out. As soon as frost is over, take off the chaff and second story, the sacks and sticks, shake the bagging and put it on again. A fair warm day should be taken for examination of the bees. As soon as breeding begins, which is governed by locality in which the bees are situated. At Pittsburgh, Pa., it begins from the 1st to the 15th of April; in New England states last of April; and if the bees were properly prepared they will now be found in fine condition and ready for

SPRINGING.

Commence breeding by stimulating the bees with uncapping a comb or feeding sugar syrup; prepared and fed in the same manner as directed for fall feeding. You must ascertain how much your hive contains so as to know how to feed. Do not allow them to get short of rations, for if you do they will destroy their brood; the queen will cease depositing eggs, and I care not how much stimulating you do, you cannot start again for a fortnight: and just here let me say a great many stimulate their bees for a time until fruit bloom, then they think that will give plenty of honey, but it does not, then the bees drag out the larvæ, the queen quits oviposition and it is two weeks before any honey comes in, and another week before breeding begins again. It is now time that they should be able to swarm, while they are not yet starting a queen cell, and here is where you make your mistake and springing is a wreck.

Breeding should commence six weeks before the swarming season, and these six weeks will decide your success for summer. After breeding fairly begins do not allow your bees to be short of stores for one day, for just here is where work begins for a successful summer. Feed in a comb placed on the outside of the brood chamber. Ordinarily a hive should be fed once a week, and from 1½ to 2½ lbs. of syrup, as the demand may appear. We have a good example from England this year. Those that fed regularly succeeded beyond all expectation, and those that did not, lost their bees. The whole year depends more or less upon the springing. To know how much feeding should be done, feed sufficient to have at least a half of a comb full all the time. Bees should have water convenient to their hives. Artificial pollen should be given liberally. As soon as breeding begins, place pieces of comb in the flour for the bees to rest on while loading themselves. Some salt water convenient will draw many bees; continue the feeding until you are sure that the bees get plenty of honey; and at any time after this, should rain or cold weather occur to stop the flow, then feed again. After a good yield of honey begins, take out your queen nuclei and make full colonies or give them to queenless ones. This brings us to

SWARMING TIME.

There are three ways of increasing bees, natural swarming, artificial swarming and the nuclei.

As to natural swarming we are never sure at what time swarms may appear, and very often do not swarm at all and cause disappointment to their owner, after many days of watching. A great many "lounge around the corners" and the hive becomes idle and if used for box honey, does little or no good; but if extracted it will set them at work. Again, they swarm before they have queens near ready to hatch; it is ten or twelve days before she is fertilized and from

six to ten before she deposits eggs, making about eighteen days that the hive does no brood rearing equal to one generation of brood, and reducing the bees about thirty thousand,— equal to a common swarm. Again, the young queen may get lost on her bridal trip and cause another long delay to raise another, which they cannot do unless supplied with eggs and brood. The swarm is liable to go off; and last but not least they swarm too strongly and leave the mother hive very weak. In this state I have seen them swarm to death, and at the first swarming too. The artificial mode is not so objectionable as the natural swarming; but has enough to discourage its use. I much prefer the nuclei mode of increase, which will give greater success than either of the other two, and I should not deem my springing successful without it. The natural or artificial modes need no description as they have been so often explained in the books and journals.

First, as soon as your hives become strong and honey is gathered, take the queen out of the hive in which you wish to raise queens. If one hive is not sufficient, use another; after your cells are eight days old, then cut them all out and put them in a queen nursery to be hatched. If you have forty hives, then put nine cells into your nursery, (always keep one extra), or for twenty hives, put in five cells. Start new cells every week as long as you wish to increase, which can be done while the bees gather plenty of honey. As soon as your queens hatch, begin at one end of your apiary and take one frame of brood from each hive, as nearly capped over as you can get it, with adhering bees (be careful not to take the queen out), have ready an empty comb to replace the one you take out, and if an empty comb, then give them a frame. Continue in this manner until you have taken five frames of brood, then put them in a hive and place them where you wish them to remain; now get a queen from your nursery; put the queen in a cage and introduce her to the nuclei; let her remain for one day, then let her out as quietly as you can. Continue this operation until you have gone through all your strong hives, and continue this operation every week as long as you wish to increase and the bees are getting plenty of honey. The hatched queen will be laying eggs; in from six to ten days the brood will be hatching, and by this time you will have a good swarm. The parent hives are not perceptibly weakened; your nuclei has its hive half full of comb, and in a week or more will be full. You have lost no time in the old hive by the absence of a queen; the loss of brood is not missed, the yield of honey is not lessened, and it gives the comb builders a chance, and your nuclei at the end of two weeks is in just as good a condition as by any natural or artificial swarming.

But springing is now over. I have shown you a successful path through winter and spring, and have led you into summer, now while you are looking over your fine lot of honey and rejoicing over your success, I will, with one explanation to follow, step out and wait until you feel like offering a greater prize for summering and falling.

EXPLANATION.

It is presumed that a large majority of bee-keepers have a full knowledge from books and journals, experience, etc., so that it would be in vain for me to take up their time in telling them, in this essay, how to start cells, rear queens, introduce them, also how to increase them during fall (that is the number of bees in a hive), how to tell a queenless hive, moths in a hive, amount of honey and a thousand and one things, necessary in the management of bees that are not at all called for in this essay.

Louisiana, Sept. 30th, 1876.

Wintering Bees.

AN ESSAY READ BEFORE THE NATIONAL BEE-KEEPERS' ASSOCIATION, OCT. 26, 1876.

My plan of wintering and springing bees is to put two swarms into one hive. Have two or more swarms near together, and in this latitude about the first of October arrange them for wintering. Make an outside case large enough to pack with chaff between. I use a frame 10½x14 in. long, and make the outer case 3 feet long by 20 in. wide and 22 in. high. Then I get out two boards 13 in. wide and as long as the case, and place them on the bottom board and the right distance apart for the frames to hang in. The next thing in order is to prepare three division boards—one to be used in the middle between the two swarms composed in part of wire-cloth, so as to give each swarm the heat of the other. The others are to be placed outside of the bees so as to admit a good quantity of chaff at each end. Make the entrances in the side of the hive according to the position of the bees before they are transferred. Also make a bridge like this ⌐ and place on the bottom-board for the bees to pass out under. After the bees are in, pack with chaff all around and on top, with quilts over the bees and two or three small sticks over the frames.

It is generally admitted that strong stocks winter the best, and this arrangement secures all the advantages of strong stocks and some that do not exist in single stocks; as for instance, if one queen is lost it is very easy to unite the bees. They will breed faster in the spring than if separate. In using the extractor I separate them when they crowd their quarters the next season and remove the chaff at the ends and division-boards when necessary, and allow the packing to remain at the sides continually.

WM. H. S. GROUT.

Poland Center, N. Y.

For the American Bee Journal.

Introducing Queens.

MR. EDITOR:—We notice in the September number of the JOURNAL that Mr. Dadant criticises quite severely the method for introducing queens, which you published from our circular, in the July number. We are not offended at this, as criticism and discussion elicit truth. The method that you, Mr. Editor, abstracted from our circular was published for the benefit of our customers and ourselves, and of course, was and still is the best method that we know of. In fact we do not hesitate to say that if properly done (and the conditions are simple), not more than one out of two hundred queens will be lost.

We do not claim to be the inventors of the method, as Mr. Quinby recommended it

years ago. We acknowledge that this method cannot always be used, as the person who wishes to introduce a queen cannot always know when she is to arrive. Whenever it is possible, we notify our customers 5 or 7 days in advance of sending queens, so that they can have their stocks ready. Not a few also, order queens sent at a certain time, when the colonies will be in readiness. All good things have their bad points, and this matter of time is the only drawback to the method of any account. The fact that the stock is queenless so long, amounts to very little, as more vacant place is at hand and a prolific queen quickly occupies all the space.

We believe that failure with this method generally occurs from leaving the stock too long. If not attended to until the tenth day, a young queen is often hatched, and she is difficult to find. If she remains, the queen to be introduced is imperiled. We notice that failures with any and all the methods, do not occur frequently with energetic bee-keepers who know their trade. This forces us to believe that most of the failures are due to inattention and inexperience. After a stock has been queenless seven days, it is a very easy matter to find all the queen cells, as they have attained a good size. Commencing at one side, lift out or slide back the frames until you come to brood, pick up the frame and grasping it firmly, give a strong, sudden jerk downwards. This dislodges most of the bees, and the cells are in plain sight. With a pointed instrument pick off all the cells. Proceed in this manner through the brood nest, place all back, close the hive, roll the queen in honey, drop her in through a hole on top, and if you have done your work thoroughly, you need not fear as to results.

Mr. Dadant admits that two queens do sometimes exist in a colony, and the one remaining kills the one to be introduced. The seven-day method effectually prevents this loss.

After the September number of the JOURNAL was issued, several of our customers tried Mr. Dadant's plan, and three that we know of, reported failures while one reported success.

The method of carrying queens for 36 to 48 hours has with us, and with many of our customers, failed to give good satisfaction. When a strong queen is taken directly from a nucleus or stock and put into a cage, the stock just made queenless recognizes her royalty and generally feeds and cares for her, but as she is caged they generally start queen cells. If the bees are fickle, as hybrids and blacks often are, the queen is in peril when released, unless these rudiments of queen cells are removed. But with queens long confined in cages, when subjected to rough treatment in the mails, the case is quite different. To such this caging is most pernicious. We would much rather keep such a queen in a cage supplied with food in our vest pocket, than in a stock of bees, unless food is supplied to her in the hive that the bees cannot get. Even then they seem to prosper better out of the hive, if kept comfortably warm.

We consider the reasons to be these:—The bees know that this queen is strange. She is in a cage and can do them no good. They have plenty of material from which to make a queen. Considering all these points they conclude to let the queen alone, and many times these queens are starved to death, unnoticed by the bees while they are constructing cells. If perchance the queen is alive, the queen cells must be carefully taken off to insure her safety when released, and even then the bees may see fit to start others, sometimes killing the queen at once, at others they keep her for a considerable time, sometimes until the queen cells hatch. During all this time she is kept from laying, sometimes so badly abused that she looses her fertality.

We do not overdraw the case, as we know just such a case this summer with a neighbor, and have known them before. We do not say that success cannot attend this method. We have often succeeded with it. But it is attended with much uncertainty as we are at they mercy of the bee's whims. When a cage is used, it should have a tin band nearly two inches wide at the top. Through this put two small holes ¼ inch from the top. Put in the queen, insert a sponge well filled with honey, stick a large pin through the sponge and through the holes, and hang the cage in the hive. The honey-board or quilt keeps the bees from the top and the queen is secured plenty of food.

When queens are received on short notice we proceed as follows, and succeed well. Go to a stock in normal condition, remove the queen, let the stock remain until evening (it is best to remove the queen early in the day), then take out the combs, forcing the bees to fill themselves pretty well with honey, by the use of smoke. Have some sweetened water, scented with anise or peppermint, in a small sprinkling pot having a fine spray. Spread this evenly over the bees and combs, taking care not to get them too wet. This makes them peaceable and disguises the presence of the queen who can be allowed to run in, or better still, she can be rolled in a little honey and dropped among the bees when the hive is closed. If this is done in the evening, robbers can do little or no harm, as by morning the bees have everything in order.

If honey is scarce or the stock weak, contract the entrance to give them the advantage of the situation. In three days look in, and if queen cells are started take them off. Examine again in seven days, to remove any queen cells that may be started and to see that all is right. We consider the last two methods good, when circumstances require their use. But with them the bees have the power to do as they like. With the seven-day plan they have no alternative but to accept our terms. We hope to hear from others upon this subject.

J. H. NELLIS.

Canajoharie, N. Y., Oct. 16, 1876.

For the American Bee Journal.

Notes by the Way.

We are quite ashamed of our treatment of you, dear old BEE JOURNAL, even though it has been altogether unavoidable. We do not know, really, how many promises we have made to write for your entertaining columns, but we *do know* that many of them remain unfulfilled. But the busy season is nearly over, and with the advent of the winter months, we shall endeavor to make all of our promises good, if scribbling

will do it. It's no easy task to sit down and pen a newspaper article when one has his head and hands full of business; if somebody thinks it is, why just let them try their hand at it.

The honey season is over for '76, and we may safely say that the centennial year has been a failure with us, so far as honey is concerned. The spring was cold, backward and wet, which wasn't at all conducive to strengthening up our decimated stocks very early in the season. The "June roses" (or something else) brought warmer weather, and——rain, rain, rain. For more than two weeks it rained almost incessantly, which of course delayed the advent of the basswood bloom. Finally it cleared up and then came a period of intense heat. Day after day the mercury wandered among the nineties, and when the linden blossoms came it was only to make a call, and a brief one too. It usually yields honey about twenty days, but this season could only afford us ten. Even during this brief period the flow of nectar was very moderate.

The scorching heat still continued, though the bees obtained a little honey from some early sown buckwheat, enough to prevent robbing and to stimulate brood rearing.

The fall harvest commenced about the 10th of August and continued for some 15 days; bone-set, fireweed, and buckwheat being the chief sources of supply. The yield of honey was only moderate, not so good as in former seasons. August is usually the best honey month of the whole season with us; and even this season we would have obtained a fair amount of surplus, had it not been for an unfortunate investment in the comb foundations, about which we may have something to tell the JOURNAL one of these days. The season has been quite poor throughout our entire State, but we learn from our Illinois correspondents that it has been an unusually good one in the "Sucker State," and right glad are we to hear it. We are pleased to learn of the success of our brother apiarists everywhere. We know from experience and observation in this particular field of rural industry, that a man fairly earns all that he obtains, and in too many cases much more than that amount.

We started out with the full intention, Mr. Editor, of giving you our experience with the house apiary, but as it is getting late and we are getting sleepy, will defer it until next month, when we will tell what we know about that particular item, which goes to make up the sum total of modern apiculture. When we take a retrospective glance over these past twelve years, we are led to exclaim with that good old lady, Mrs. Partington, "bless my stars, how our American people do take to new-fangled fixins." We wonder if her son Ike wasn't a bee-keeper? Good night.

HERBERT A. BURCH.

South Haven, Mich., Oct. 19, 1876.

For the American Bee Journal.

A Chip from Sweet Home.

In August my wife and the "old block" from which the chips fly, gave Dr. Derr—living 13 miles distant, near Keithsburg—a fraternal call. The Doctor's apiary numbers nearly 100 hives. He runs them for profit; movable frames (Langstroth), slinger and black bees. He had 100 6-lb. boxes piled in his kitchen, also a quantity of slung honey. A number of his hives are close by his honey. We were surprised to see "nary a bee" prying into those boxes; the doors and windows being open.

My house is 10 rods distant from the apiary, and a little honey on the table covered will attract our Italians, so that we have to close the door. His blacks and my Italians were neither gathering any honey. Italians will find honey or any sweets in more secret or distant places than blacks; this fact we have noticed several times. The Doctor lacked shade; for a few he had tried some corn hills, which he said gave him all the shade he wanted. He has adopted the slates, as well as some other neighbors. Bee-keepers try the slates! they cost but one cent each, and report.

D. D. PALMER.

Eliza, Ill., Oct. 16, 1876.

For the American Bee Journal.

Southwestern B. K. Association.

Persuant to a call issued at the preliminary meeting here on Aug. 17th, a number of bee-keepers met and effected a permanent organization by electing the Rev. Dr. Marshall, of Marshall, Texas, president; Wm. L. Gordon, of Shreveport, secretary; and J. M. Bowles, of Shreveport, treasurer.

On motion, resolved, that the name of this association shall be called "The Southwestern Bee-Keepers' Association."

On motion, resolved, that the chair appoint a committee to draft a constitution and by-laws, and report the same at our next meeting. The following gentlemen were appointed: Wm. L. Gorden, J. M. Bowles, Col. L. L. Tompkins, and W. D. Wylie.

On motion, resolved, that the reading of essays, etc., asked at the preliminary meeting to be read to-day, be deferred until our next meeting.

On motion, resolved, that any person wishing to become members can do so by enrolling their names. The following names were enrolled: Rev. Dr. W. K. Marshall, and J. E. Jones, of Marshall, Tex.; Geo. W. Stoner, Wm. L. Gorden, J. M. Foster, Dr. J. F. Davis, J. M. Bowles, W. E. Paxton, Rainey Carter, and W. D. Wylie, of Shreveport, La.; Capt. O. L. Durham, Keachi, La.; W. C. Hill, of Jefferson, Tex.; G. W. Jefferson, Kingston, La.; and John R. Williams.

On motion, the meeting then adjourned to meet in Shreveport on the second Wednesday in March, 1877, at 10:30 A. M.

WM. L. GORDEN, *Secy.*

For the American Bee Journal

How to Increase the List.

I notice that several persons have offered to give premiums to the one who sends the largest number of subscribers to the JOURNAL before Jan. 1, 1876. All this is good and just right, but it strikes me that we can increase the number of subscribers in another way. My plan is this: Let each subscriber and reader of the JOURNAL make up his mind to send one new name at least. Now let us go to work and do this before the 1st of January, so that when the

new year comes the list of subscribers will be just twice as long as it now is. I intend to find one new name, and if I can't find a man who will subscribe I will make some a New Year's present by sending them the JOURNAL for one year. I have no doubt that we can find (each reader I mean) several new subscribers if we go to work in earnest. I hope no one will read this and not think of it again. Let us make THE AMERICAN BEE JOURNAL the best in the world.

When a stranger writes me concerning bees I always urge him to subscribe to the A. B. J., unless he is already a reader, and I don't forget to give him its address.

We met Bro. Newman at the Convention at Philadelphia, but could not get a chance to talk with him about the above way of increasing the circulation of our favorite JOURNAL. If a few queens, a good bee hive or a good honey extractor will add many names to the list we would be glad to furnish them, but let us in every way increase the number of readers. If friend Newman will give the name of the person who sends the largest number of subscribers I will try and coax him to accept of a present of some kind if anything I sell will be acceptable to him. H. ALLEY.

Wenham, Mass., Oct. 31, 1876.

[Certainly, friend Alley, we will publish the names, and thank you for the liberal offer and suggestions. We hope every subscriber will act upon friend Alley's suggestion.—ED.]

For the American Bee Journal.

Comb Foundation.

MR. EDITOR:—Through the A. B. J. you wish to get the experience of those who have tested comb foundation. I have used a large amount of it this season, and have not read or heard anything that gives justice to its great worth to the bee-keeper. I am astonished that those who say they have tried it and understand the bee business should say that it is cheaper to let the bees build it than to buy it. Perhaps they can drone comb, but not worker; and perhaps they cannot. But we shall see.

Now all bee-men know that bees build comb quickest when honey is plenty and bees strong, and at this time they naturally want to build drone comb, and some bees almost refuse to build worker comb at that season. With the foundation you have a beautiful straight card of all worker comb, every time; and this is just what we all want.

I had a swarm in July that would draw out a card, 12x12, every 24 hours and fill it with eggs. This I kept up for 8 days, making 8 full cards out of one pound of foundation; that being worth $1.00 per lb. in large quantities, make the cards cost 12½ cents each. I might just state here that there is material enough in the foundation to draw the cells out full length, without any additional wax; this I have tested by weighing it as soon as finished, by removing what little honey might be stored it.

Now supposing it takes 25 lbs. of honey to make this one pound of comb, which I believe is what has always been estimated by scientific men, this at 20c. per lb. would be $5.00, which is $4.00 in favor of every pound of foundation, besides the amount of labor saved for our bees. I would like to see a swarm that would build a comb 12x12 per day for 8 days, and get 4 out of 8 worker combs, in a hive not exceeding 14 frames of the above size; allowing they did build the 8 combs in 8 days which I think will never be in our *short days*.

The best way I have tried to put it in the frame, is to cut the piece the full size of the frame, less ½ inch at the bottom and ⅛ in. from the sides of the lower half; and the upper half if waxed on the top and down half way will hold it firm, and you will always have straight and beautiful comb. This waxing is best done by having a board fit the inside of the frame and lay the foundation on it while running the wax around. I have done as many as three in a minute in this way. W. G. WALTON.

Hamilton, Ont.

For the American Bee Journal.

The Bee-Wolf.

I read in your valuable BEE JOURNAL on page 257 (October, 1876), a very interesting article headed "Bee Killers." Though these enemies of bees, described by Mr. C. V. Riley, are not to be found in Germany, we have a somewhat similar bee killer who did much damage to our bees last summer. It is popularly known as the bee-wolf. This insect resembles somewhat the common wasp, only it is slender.

The bee-wolf is of the wasp species and lives alone—single. The female digs a funnel 12 inches deep in a sunny and sandy place; then it catches a bee, kills it with its weapon and carries the dead body into its funnel, where it lays an egg on its prey. This egg will hatch very soon and the larvæ will feed upon the dead bee.

The bee-wolf catches the bees in the air or on the entrance of the hive. It preys almost exclusively upon the honey bee. Never before have German bee-keepers seen such swarms of these bee killers as during the past summer. There was no remedy to prevent the damage of this cruel insect. The hives were depopulated; in consequence, our honey harvest was much smaller than the year before.

C. J. H. GRAVENHORST.

Brunswick, Germany, Oct, 25, 1876.

A TOWN LOT FOR NOTHING.

We would call the attention of our readers to the advertisement of the Ohio, Kentucky and Texas Land Company, and to their very liberal offer. The Company is only carrying on, on a large scale, what is done every day in our large cities—selling alternate lots to induce settlers and increase the value of the remaining lots—with this difference: that this Company GIVES AWAY their alternate lots. Mineral City is a growing town, and will undoubtedly become a large city, when the lots that are now given away will be very valuable. The offer is *bona fide*, and only open for thirty days, as the demand will exceed the supply, and the Company will not dispose of all their lots free. The Company is composed of reliable gentlemen, and our readers can be assured that they will, by complying with their instructions, receive, by return mail, a warranty deed to a town lot, which can be held for further use, or sold, or settled upon, as the owner may please.